SOAN 239: Explorations in Social Data Analysis
“Facts are stubborn but statistics are more pliable” – Mark Twain

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Office phone: (507) 222-7819
Office Hours: Mon: 2:30 - 3:30 pm
Tues: 9:30 - 10:30 am
Wed: 2:30 - 3:30 pm
Fri: 2:30 - 3:30 pm
And by appointment, if necessary

Course Description:
What does it mean if for something to be statistically significant? Why does it matter? This course will ask and answer these questions by providing social science students with the basic statistical tools for data analysis and interpretation. The course covers the foundations of univariate and inferential statistics. Using the statistical program SPSS, we’ll focus much more on learning to apply social statistics and how to make sense of the findings, rather than the underlying statistical theory. No prior knowledge of statistics is required.

Course Goals:
In this introductory class for social statistics, the goal is first to develop an understanding of and proficiency in data analysis. We will first set the foundation of the ‘nuts and bolts’ of statistics. To do this, we will develop a tool kit to examine distributions of variables and the relationships between two variables.

But any good social scientist will go beyond just understanding the calculations. The broader goal is to develop students’ statistical literacy to better understand how statistics fits in with social science research in general.

Last, the goal is for students to conduct a statistical project. Using a real dataset used by sociologists, you will conduct a preliminary descriptive statistical analysis using SPSS. These findings will be presented to the class at the end of the term.

Learning Outcomes
As a part of Carleton’s assessment initiative, the SOAN Department has identified six Student Learning Outcomes for SOAN majors.

This course emphasizes the ability to:

- Select appropriate sociological research methods to study socio-cultural phenomena
- Formulate appropriate sociological research questions about socio-cultural phenomena

This course fulfills also fulfills part of Carleton’s Quantitative Reasoning Encounter (QRE).
Required Course Materials:

Note: There are several available formats of this book. You may pick the one that most suits your needs (i.e. the hardcover textbook, a loose leaf copy, ebook, or online portal access).

Additional readings will be posted on Moodle.

We will also be using the statistical software SPSS to conduct data analysis. SPSS is available in the library labs as well as in computers scattered around campus.

- Labs with SPSS for Mac: (HUL007, LEIG231, LIBR306, LIBR318, LIBR451, MUDD066, MUDD068, MUDD071, MUDD075, MUDD073, OLIN011, OLIN014, OLIN015, OLIN102, OLIN104, OLIN110, OLIN112, PSYCSTU, WILL119, WILL310)

- Labs with SPSS for Windows: (Hul007, Leig231, Libr306, Libr451, Mudd066, Mudd068, Mudd071, Mudd073, Mudd075, Olin014, Will310)

There is no need to purchase an individual license.

Grading:
Test 1: 18% 
Test 2: 19% 
Test 3: (final exam): 25% 
Homework: 18% 
Data analysis and presentation: 10% 
Participation: 10%

Grades will be assigned according to the following distribution:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
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<tbody>
<tr>
<td>A</td>
<td>100-94</td>
</tr>
<tr>
<td>A-</td>
<td>&lt;94-90</td>
</tr>
<tr>
<td>B+</td>
<td>&lt;90-88</td>
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<tr>
<td>B</td>
<td>&lt;88-84</td>
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<tr>
<td>C+</td>
<td>&lt;80-78</td>
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<tr>
<td>C</td>
<td>&lt;78-74</td>
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<tr>
<td>D+</td>
<td>&lt;70-68</td>
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<td>D</td>
<td>&lt;68-60</td>
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<tr>
<td>F</td>
<td>&lt;60</td>
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</tbody>
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Assignments
Learning statistics is a lot like learning a foreign language – in order to get better, you have to practice every day. Thus, we will do a lot of assignments and problems both in class and at home.

The course consists of multiple homework assignments, and one presentation (more on this later in the term). Homework assignments may be done in groups but each student is responsible for turning in his or her own copy of the assignment. More importantly, each student is responsible for learning the material. So keeping up with homework is paramount.

Policy on late work: The ten week term is short and falling behind is a recipe for disaster. Get your assignments done on time. In general, I do not accept late work and I do not give makeup exams.
Academic Integrity:
In line with Carleton’s policy on academic integrity, it is assumed that the student is the author of all coursework. Please refer to Carleton’s full policy for additional information or see me if you have questions. http://apps.carleton.edu/campus/doc/integrity/

Disability Services for Students:
Carleton College is committed to providing reasonable accommodations to students with disabilities. Students seeking accommodations should contact the Coordinator of Disability Services, Andy Christensen, at 222-4464 or anchrist@carleton.edu, to begin the process.

Attendance/Class participation/Respectful use of electronic devices
Just showing up to class is not sufficient. We are a small class, providing a unique opportunity for lots of class participation. You are encouraged to speak up and ask questions. There is no such thing as a stupid question!

Students who are consistently tardy or miss three or more classes will forfeit their participation grade. The “default” participation grade is 5 out of 10, so students who actively and productively contribute to class will substantially increase their grades. Egregious absenteeism and tardiness will significantly affect your grade beyond participation points.

I am a reasonable person so should you have an extenuating circumstance and the documentation to verify it (i.e. a note from a doctor, class dean, etc.), we can work something out.

It should go without saying but in addition to being present, students should refrain from inappropriately using electronic devices during class time.
<table>
<thead>
<tr>
<th>Read for class that day</th>
<th>Do for homework before next class</th>
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</thead>
<tbody>
<tr>
<td>Mon Sept 16</td>
<td>Read cautionary tales from Chapter 1, each student will present one in class on Wed. (details to follow)</td>
</tr>
<tr>
<td>What is statistics? Welcome and introduction</td>
<td></td>
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<tr>
<td>Wed Sept 18</td>
<td>2.1, 2.3, 2.5, 2.14, 2.26, 2.28, 2.29, 2.39</td>
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<tr>
<td>Turning data into information 2.1-2.3</td>
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<tr>
<td>Friday Sept 20</td>
<td>2.42, 2.45, 2.47, 2.58, 2.62, 2.83</td>
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<tr>
<td>Spread and outliers 2.4-2.6</td>
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<tr>
<td>Mon Sept 23</td>
<td>2.86, 2.87, 2.91, 2.96, 2.103, 2.109</td>
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<tr>
<td>Bell shaped curves 2.7-2.8</td>
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</tr>
<tr>
<td>Wed Sept 25</td>
<td>3.1, 3.3, 3.15, 3.16, 3.17, 3.25</td>
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<tr>
<td>Relationships between quantitative variables: 3.1-3.2</td>
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<tr>
<td>Fri Sept 27</td>
<td>3.28, 3.30, 3.37, 3.38, 3.43, 3.54, 3.66</td>
</tr>
<tr>
<td>Correlation 3.3-3.5</td>
<td></td>
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<tr>
<td>Mon Sept 30</td>
<td>No homework! This is a good time to review.</td>
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<tr>
<td>Meet in Computer Lab LIBR 306</td>
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<tr>
<td>Wed Oct 2</td>
<td>5.4, 5.5, 5.15, 5.26, 5.36, 5.57, 5.97, 5.98</td>
</tr>
<tr>
<td>Sampling 5.1-5.2 and 5.5</td>
<td></td>
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<tr>
<td>Fri Oct 4</td>
<td>7.3, 7.5, 7.8, 7.14, 7.20, 7.24, 7.28, 7.40, 7.45</td>
</tr>
<tr>
<td>Probability 7.1-7.4</td>
<td></td>
</tr>
<tr>
<td>Mon Oct 7</td>
<td>7.54, 7.56, 7.58, 7.61, 7.75, 7.95</td>
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<tr>
<td>Probability 7.5 and 7.7</td>
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Wed Oct 9
Review for Exam 1

Fri Oct 11
Exam 1 in class

Mon Oct 14
Random Variables
8.1-8.3

Wed Oct 16
Random Variables
8.5-8.6

Fri Oct 18
Sampling Distributions
9.1-9.3

Wed Oct 23
Sample Distribution for one sample mean
9.6, 9.8, 9.9 (lesson 3 p.342)

Fri Oct 25
Confidence Intervals for Sample Means
10.1, 11.1-11.2, 11.4

Mon Oct 28
Hypothesis Testing
12.1, 13.1-13.2, 13.4

Wed Oct 30
Meet in Computer Lab
LIBR 306
13.5

Fri Nov 1
Test 2

Mon Nov 4
Sample Proportions
9.4-9.5, 9.9 (again),
Wed Nov 6
Confidence Intervals Proportions
10.2-10.4

Fri Nov 8
Hypothesis Testing Proportions
12.2-12.4

Mon Nov 11
Meet in Computer Lab
LIBR 306
Take a little break, no homework.

Wed Nov 13
Hypothesis Testing Categorical Variables
4.1 and 4.4

Thursday Nov 14
Study Break: Optional dinner at my house

Fri Nov 15
Meet in Computer Lab
Work on Final Project

Mon Nov 18
Presentations Day 1

Wed Nov 20
Presentations Day 2
Final Evaluations

Fri Nov 22
OPTIONAL FINAL REVIEW Time TBD

Final Exam: Monday Nov 25 from 8:30 -11am