

**Syllabus for SOC 2160, Section 1
Applied Statistics for Social Scientists
Spring 2018**

Location:

MW 3:30 – 4:45pm, 158 VAN

Professor: Bryce J. Dietrich

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Office Hours: R 1:30–4:30pm, and by appointment

Teaching Assistants:

Teaching Assistant: Kaylin Burgess
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Office Hours: RF 10-11:30am

Text: *Statistical Methods for the Social Sciences*, Alan Agresti, 5th Edition. Pearson.

Software: *STATA*, 14th Edition.

You are more than welcome to acquire your own copy of STATA, but I will be using the University of Iowa's Virtual Desktop. You can find installation instructions [here](#). They also provide a comprehensive list of the software they provide in this [article](#). If you are interested in additional STATA resources. Others have found the following books to be helpful. These books are **NOT** required for purchase. I list them here for reference purposes:

A Gentle Introduction to STATA, Alan C. Acock, 5th Edition, ISBN 978-1-59718-185-3

Data Analysis Using STATA, Ulrich Kohler and Frauke Kreuter, 3rd Edition, ISBN 978-1-59718-110-5

Material to be Covered: This course is an introduction to the basic statistical methods used in sociology to analyze quantitative data, including data from surveys and archives. Three main topics will be covered: (1) distributions of single variables, (2) sampling distributions and statistical inference and (3) relationships between pairs of variables. For each area, we will focus on how to execute and interpret analyses using actual data.

Homework: Problem sets are an important part of the curriculum and should help you prepare for the exams. They require solving mathematical problems, computer exercises, diagnosis and correction of regression assumption violations and applications in advanced topics. The problems must be emailed by 11:59PM on the date they are due. Partial credit will be given accordingly so it is advantageous to show your work. No late assignments will be accepted.

Exams: The midterm exam will be administered the week before Spring break. The final exam is cumulative and will be administered during finals week. Content of the exams are based on the textbook, course lectures, and the problem sets. Make-up exams will not be given except under certain conditions. University policy requires that students be permitted to make up examinations missed because of illness, mandatory religious obligations, certain University activities, or unavoidable circumstances.

Class Participation: Attendance is required. The study of statistics is cumulative and it is very important that you keep up with the material. Your participation grade will be worth 100 points. Every missed class period will result in a loss of 5 points in your class participation grade. You are allowed 2 unexcused absences without penalty. For example, if you miss 3 class periods, your participation grade will be 95/100.

Grading:

Homework	35%
Final Exam	30%
Midterm Exam	25%
Participation	10%

Scale:

A+	98-100%
A	93-97.99%
A-	90-92.99%
B+	87-89.99%
B	83-86.99%
B-	80-82.99%
C+	77-79.99%
C	73-76.99%
C-	70-72.99%
D+	67-69.99%
D	63-66.99%
D-	60-62.99%
F	0-59.99%

Administrative Home: The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall, or see the CLAS Academic Policies Handbook at <http://clas.uiowa.edu/students/handbook>.

Electronic Communication: University policy specifies that students are responsible for all official correspondences sent to their University of Iowa e-mail address (@uiowa.edu). Faculty and students should use this account for correspondences ([Operations Manual, III.15.2, k.11](#)).

Accommodations for Disabilities: The University of Iowa is committed to providing an educational experience that is accessible to all students. A student may request academic accommodations for a disability (which include but are not limited to mental health, attention, learning, vision, and physical or health-related conditions). A student seeking academic accommodations should first register with Student Disability Services and then meet with the course instructor privately in the instructor's office to make particular arrangements. Reasonable accommodations are established through an interactive process between the student, instructor, and SDS. See <http://sds.studentlife.uiowa.edu/> for information.

Academic Honesty: All CLAS students or students taking classes offered by CLAS have, in essence, agreed to the College's [Code of Academic Honesty](#): "I pledge to do my own academic work and to excel to the best of my abilities, upholding the [IOWA Challenge](#). I promise not

to lie about my academic work, to cheat, or to steal the words or ideas of others; nor will I help fellow students to violate the Code of Academic Honesty.” Any student committing academic misconduct is reported to the College and placed on disciplinary probation or may be suspended or expelled ([CLAS Academic Policies Handbook](#)).

CLAS Final Examination Policies: The final examination schedule for each class is announced by the Registrar generally by the fifth week of classes. Final exams are offered only during the official final examination period. No exams of any kind are allowed during the last week of classes. All students should plan on being at the UI through the final examination period. Once the Registrar has announced the date, time, and location of each final exam, the complete schedule will be published on the Registrar’s web site and will be shared with instructors and students. It is the student’s responsibility to know the date, time, and place of a final exam.

Making a Suggestion or a Complaint: Students with a suggestion or complaint should first visit with the instructor (and the course supervisor), and then with the departmental DEO. (**Jennifer Glanville, 335-2498**) Complaints must be made within six months of the incident ([CLAS Academic Policies Handbook](#)).

Understanding Sexual Harassment: Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community have a responsibility to uphold this mission and to contribute to a safe environment that enhances learning. Incidents of sexual harassment should be reported immediately. See the UI [Comprehensive Guide on Sexual Harassment](#) for assistance, definitions, and the full University policy.

Reacting Safely to Severe Weather: In severe weather, class members should seek appropriate shelter immediately, leaving the classroom if necessary. The class will continue if possible when the event is over. For more information on Hawk Alert and the siren warning system, visit the [Department of Public Safety website](#).

Calendar: The calendar below gives the dates of exams and other important deadlines for the course. Readings should be completed prior to the start of class. This calendar is subject to change.

Week 1

Monday 15 Jan MLK Day
No Class
Wednesday 17 Jan Basic Concepts
Agresti, 1, 2

Week 2

Monday 22 Jan Central Tendency
Agresti, 3
Wednesday 24 Jan Variability
Agresti, 3

Week 3

Monday 29 Jan STATA Introduction, Part I
No Readings
Wednesday 31 Jan STATA Introduction, Part II
No Readings

Week 4

Monday 5 Feb Normal Distribution
Agresti, 4
Wednesday 7 Feb Sampling Distribution
Agresti, 4

Week 5

Monday 12 Feb Confidence Intervals
Agresti, 5

Homework #1 Due

Wednesday 14 Feb Hypothesis Testing, Part I
Agresti, 5

Friday 16 Feb **Lab #2 Due**
No Readings

Week 6

Monday 19 Feb Significance Tests
Agresti, 6

Wednesday 21 Feb Hypothesis Testing, Part II

Week 7

Monday 26 Feb Paired t -test
Agresti, 7

Wednesday 28 Feb Two-sample t -test
No Readings

Week 8

Monday 5 March Midterm Review
No Readings

Homework #2 Due

Wednesday 7 March Midterm Exam
No Readings

Week 9

Monday 12 March Spring Break
No Class

Wednesday 14 March Spring Break
No Class

	<u>Week 10</u>
Monday 19 March	ANOVA, Part I <i>Agresti, 12</i>
Wednesday 21 March	ANOVA, Part II <i>Agresti, 12</i>
	<u>Week 11</u>
Monday 26 March	χ^2 , Part I <i>Agresti, 8</i>
Wednesday 28 March	χ^2 , Part II <i>Agresti, 8</i>
	<u>Week 12</u>
Monday 2 April	Correlation <i>Agresti, 9</i>
Wednesday 4 April	MPSA <i>No Class</i>
Friday 6 April	Homework #4 Due <i>No Readings</i>
	<u>Week 13</u>
Monday 9 April	Bivariate Regression, Part I <i>Agresti, 9</i>
Wednesday 11 April	Bivariate Regression, Part II <i>Agresti, 9</i>
	<u>Week 14</u>
Monday 16 April	Introduction to Multiple Relationships, Part I <i>Agresti, 10</i>
Wednesday 18 April	Introduction to Multiple Relationships, Part II <i>Agresti, 10</i>
Friday 20 April	Homework #5 Due <i>No Readings</i>

Week 15

Monday 23 April Multiple Regression, Part I
Agresti, 11
Wednesday 25 April Multiple Regression, Part II
Agresti, 11
Friday 27 April **Homework #6 Due**
No Readings

Week 16

Monday 30 April Final Exam Review
No Readings
Wednesday 2 May Final Exam Review
No Readings
Friday 4 May **Homework #7 Due**
No Readings

Week 17

Monday 7 May Final Exam, TBD
No Readings
Wednesday 9 May Final Exam, TBD
No Readings