Evans School of Public Policy and Governance  
University of Washington 

PBAF 527 B: Quantitative Methods I - Winter 2016  
Lectures: Tuesday/Thursday 8:30 - 9:50 AM • Parrington Hall 108  
Quiz Sections: Mondays 11:30 - 12:20 • SWS 230  
Thursdays 12:30 - 1:20 PM • Parrington 108  
Draft Syllabus (12/13/15)  

Syllabus will be updated as the quarter progresses – see Canvas website for current syllabus.

<table>
<thead>
<tr>
<th>Instructor: Greg Traxler</th>
<th>TA: Jeff Upton</th>
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<tbody>
<tr>
<td>408 Parrington Hall</td>
<td>Parrington 124E</td>
</tr>
<tr>
<td><a href="mailto:gtraxler@uw.edu">gtraxler@uw.edu</a> - 334-524-1233 (cell)</td>
<td><a href="mailto:jeffcu@uw.edu">jeffcu@uw.edu</a></td>
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</tbody>
</table>

Office Hours: Mon 3:00 - 5:00 and Tues 10 - 12:00 and by appointment. I am available to meet by appointment most days.  
Office hours: Wed 3:00-5:00 and TH 10:00 -12:00.

Canvas website: https://canvas.uw.edu/courses/1025189 Consult Canvas for announcements and course updates.

Textbook. There is no required textbook for this course. Recommended references are:

Software. The TAs will be supporting use of the SPSS software for class assignments. You are free to use other software if you prefer, but without TA support. SPSS 19 is available on the Evans School Terminal server at es-ts.evans.uw.edu using Remote Desktop clients from Windows and Macintosh computers. It is also available in the computer lab at the Evans School or online by establishing an account at the UW Center for Studies in Demography and Ecology. You can also purchase a personal copy of SPSS from the University Bookstore Computer Store.

Course description, framework and objectives
This course is the first in a two-quarter sequence aimed at helping you to become a skilled producer and critical consumer of statistical analyses. Our goal is for you to understand enough theory and have enough experience to intelligently use data to make inferences and conclusions. Furthermore, you will able to digest and critically assess empirical evidence that you may encounter. Throughout the course, we will examine policy questions and related data in order to learn how to apply analytic techniques. By the end of this course, we expect that you will:
- Understand core statistical terms, concepts, definitions and methods
- Be comfortable using descriptive statistics and statistical inference to approach common policy questions;
- Be able to interpret studies that use confidence intervals, test statistics, and p-values;
- Understand when and how to use statistical analysis to frame, describe, and analyze management or policy issues;
- Assess the quality and quantity of data, and recognize the implications of the strengths and weaknesses of a given dataset;
- Use statistical software (SPSS) to manipulate data and test hypotheses using common statistical tests;
- Explain statistical results to non-technical audiences.

This class includes 2 lecture periods and a quiz/homework section each week. The lecture period will present concepts and applications, while the quiz section will focus on learning SPSS, working with data, reviewing lectures, and answering student questions about lectures and homework assignments.

Class participation and community conversation norms
The Evans community conversation norms provide a good set of principles to observe in class discussions:
- Listen carefully and respectfully
- Share and teach each other generously
- Clarify the intent and impact of our comments
- Give and receive feedback in a “relationship-building” manner
- Work together to expand our knowledge by using high standards for evidence and analysis

Cheating and plagiarism. In this course, evidence of cheating or plagiarism will result in a zero on the relevant assignment and a scheduled discussion between the student, the professor, and Student Services. Cheating is not doing
your own work (when you are expected to), which can include: copying from another student’s assignment or exam, using notes when it is prohibited, using an electronic devise when its prohibited, and getting an advance copy of the exam. Plagiarism is using another’s ideas or words without proper citation.

**Helpful Resources for Stress**

It’s normal to feel stressed at times during graduate school. Often, a good response to stress is to ask for help. If you’re feeling stressed about this course, please come by office hours (professor’s or TA’s). If you’re feeling stress unrelated to a particular course, please know that the following resources are available.

<table>
<thead>
<tr>
<th>A helpful and experienced ear — not trained counselors</th>
<th>Free counseling for UW students</th>
<th>On-campus health center, includes counseling for a fee</th>
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<tr>
<td>• Evans School Student Services</td>
<td>• UW Counseling Center</td>
<td>• Hall Health Center</td>
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<tr>
<td>Carrie Evans or Caitlin Blomquist</td>
<td>401 Schmitz Hall</td>
<td>4060 E Stevens Way NE</td>
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<tr>
<td>Parrington 109</td>
<td>(206) 543-1240</td>
<td>(206) 685-1011</td>
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<td><a href="mailto:evans77@uw.edu">evans77@uw.edu</a></td>
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<td><a href="mailto:cmb23@uw.edu">cmb23@uw.edu</a></td>
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**Grading**

Your grade in this course will consist of the following:

- Homework assignments (5) 10%
- Midterm exam 30%
- Policy report 30%
- Final exam 30%

**Homework assignments.** The purpose of the homework assignments is to give you practice in applying the concepts presented in lecture. Homework is due at the beginning of class. No late homework will be accepted. Your homework assignments should be legible and professional in appearance. Exceptionally sloppy assignments will be downgraded or possibly rejected. Questions about the grading of your homework assignments should be directed first to your TA. Homework will be graded on a 0,1,2 scale:

- 2 points for assignments that are complete, presentable and on time with minor or no errors
- 1 point for assignments with significant errors indicating gaps in understanding, or poorly presented
- 0 points for late homework or homework indicating low effort, confusion about concepts, or exceptional sloppiness

**Exams.** Both the midterm and final exams will be proctored in class. You are allowed to bring exam notes provided to you by the TA. You are not allowed to bring a laptop or to use calculators other than the ones provided in class. The exams will be graded on a point scale and then translated to the 4.0 scale. The midterm will be given on Thursday, February 4th during our normal class time. The final exam will be given in the same room on Tuesday, March 15th from 10:30-12:20 (our UW-designated final exam date and time).

**Policy Report:** The purpose of this assignment is to apply the skills you gain from class to a policy issue. For this project, you will use data from the 2010 Washington State Population Survey. You will choose a topic, identify a client (real or hypothetical), manipulate the data, and write a memo using the results. You should choose a topic early in the quarter and explore it for the SPSS portions of the homework. You must work with a partner. The pairs submitted in the proposal must be the final pairs for the project.

In the 1 page proposal for your report (due Feb. 9th), describe the research question that you will test with the data. Explain which variables and comparisons you will use to examine your ideas. Write this proposal as a memo to the client you have chosen for your project.

The final report (due March 10th) should contain 4-6 single-spaced pages of text (maximum of 2 additional pages for graphics and tables) and demonstrate your understanding of the issues and concepts covered in the class. The report must contain empirical analysis in the form of tables, graphs, and hypothesis tests. The objective is to "translate" statistical information for a policy-maker. Write your report for the client (a non-statistician), but include enough information for a statistician to evaluate what you've done (often in footnotes and appendices). The memo will be graded on content, analytic reasoning, analytic techniques, clarity of writing, and graphical presentation. You're encouraged to make full use of statistical software, word processing, and graphics packages to put your results in an attractive, readable form. We will discuss your results in class when the report is due.

**Required elements of Policy Report:**
Executive summary (1/2 page or less):
  o What are your results?

Construct a research question:
  o What question will you answer for your client?

Describe your data source:
  o What is the source of your evidence?

Present your evidence:
  o Translate statistics into meaning

Tell client how good this information is (give caveats about data or methods) and how to get better information:
  o Do these data answer the questions?

Give your conclusions and policy implications:
  o What should your client do with this information?

Winter Quarter Schedule.
The schedule is tentative and will be updated on Canvas as the quarter progresses. Please contact me if you have any questions.

Homework Assignment and Exam Due Dates
1. HW Assignment 1 Jan 14
2. HW Assignment 2 Jan 21
3. HW Assignment 3 Jan 28
4. Midterm Exam Feb 4
5. Report Proposal Feb 9
6. HW Assignment 4 Feb 23
7. HW Assignment 5 March 3
8. Policy Report March 10
9. Final Exam March 15

Lecture topics and textbook source chapters

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Newbold, Carlson, and Thorn</th>
<th>OpenIntro Statistics</th>
<th>HW</th>
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</thead>
<tbody>
<tr>
<td>1 - Jan 5 &amp; 7</td>
<td>Variables, descriptive statistics and data</td>
<td>1, 2</td>
<td>1</td>
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<td>2 - Jan 12 &amp; 14</td>
<td>Data; Probability</td>
<td>3</td>
<td>2</td>
<td>1</td>
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<tr>
<td>3 - Jan 19 &amp; 21</td>
<td>Probability and proportions; Discrete random variables</td>
<td>4</td>
<td>3</td>
<td>2</td>
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<tr>
<td>4 – Jan 26 &amp; 28</td>
<td>Continuous Random Variables and Normal Distributions</td>
<td>5</td>
<td>3</td>
<td>3</td>
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<td>5 – Feb 2 &amp; 4</td>
<td>Mid-term review and exam</td>
<td>5</td>
<td>3</td>
<td>Exam</td>
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<tr>
<td>6 – Feb 9 &amp; 11</td>
<td>Sampling distributions and confidence intervals</td>
<td>6, 7</td>
<td>4</td>
<td>Proposal</td>
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<tr>
<td>7 – Feb 16 &amp; 18</td>
<td>Introduction to hypothesis testing</td>
<td>8, 9</td>
<td>4, 5</td>
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<td>8 – Feb 23 &amp; 25</td>
<td>Hypothesis Testing; z/t distributions</td>
<td>10</td>
<td>4, 5</td>
<td>4</td>
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<tr>
<td>9 – March 1 &amp; 3</td>
<td>Hypothesis testing: chi-square</td>
<td>14</td>
<td>6</td>
<td>5</td>
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<td>10 – March 8 &amp; 10</td>
<td>Review &amp; policy report discussion</td>
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<td>Report</td>
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<td>Tuesday, March 15, 10:30-12:20 Final Exam, PAR 108</td>
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