COURSE DETAILS
Title: Economics 6374 Probability and Statistics for Economics
Section: DE (CRN XXX)
Semester: Spring Semester 2019
Location: On-line

INSTRUCTOR
Name: Dr. Ken Danger
Campus Address: Monroe 340, Department of Economics
2115 G St., NW, Washington, DC 20052
E-mail: Danger@gwu.com
Telephone: (202) 994-6150
Office hours: By appointment

TEACHING ASSISTANT
Name: Mr. Feng Zhang
Email: zhangfeng@gwmail.gwu.edu
Time and Location: Monday and Thursday from 3:30 to 4:30 in Monroe 324

COURSE DESCRIPTION
This course will provide a thorough introduction to topics in probability and statistics. These concepts will serve as a foundation for your work in economics and econometrics. Students will use a statistical computer package (e.g., SAS, STATA or R) to describe data, present graphs, explore Bayesian probability values, central limit concepts, conduct hypothesis testing, and form confidence intervals, among other topics. Each problem set will require students to apply the concepts learned to real data through hands on learning exercises.

PREREQUISITES
Recommended background: Completion of a course in mathematics that includes integrals, such as Mathematics for Economists 6300.

TEXTBOOKS
  - Standalone digital access code with eBook: ISBN 9781305948051

If you wish to conduct your analyses of data using SAS then I recommend that you obtain a copy of the textbook by Lora Delwiche and Susan Slaughter titled: The Little SAS Book: A Primer, 5th edition, SAS Institute, 2012.

SAS (Student Version), STATA, R or even EXCEL


Optional – Ross, Sheldon. A First Course in Probability, any edition. Pearson/Prentice Hall. This is an advanced text and most students do not get or need a copy.

LEARNING OUTCOMES
Students will
- Learn the language and core concepts of probability theory
- Understand basic principles of statistical inference
- Know how to apply a variety of statistical tests, including Z, t, and chi squared
- Write code and use software to do statistics (SAS)

AVERAGE MINIMUM AMOUNT OF INDEPENDENT, OUT-OF-CLASS, LEARNING EXPECTED PER WEEK
In a 15 week semester, including exam week, students are expected to spend a minimum of 100 minutes of out-of-class work for every 50 minutes of direct instruction, for a minimum total of 2.5 hours a week. A 3-credit course should include 2.5 hours of direct instruction and a minimum of 5 hours of independent learning or 7.5 hours per week. In a condensed format, the workload may more than double, such as with a six week or eight week summer course.

GRADING
- Homework assignments 30%
- Midterm 35%
- Final 35%

Discussions: Each class will feature discussions about the week’s readings. Additional questions are encouraged.

Final exam: The final is cumulative.

UNIVERSITY POLICY ON RELIGIOUS HOLIDAYS
1. Students should notify faculty during the first week of the semester of their intention to be absent from class on their day(s) of religious observance;
2. Faculty should extend to these students the courtesy of absence without penalty on such occasions, including permission to make up examinations;
3. Faculty who intend to observe a religious holiday should arrange at the beginning of the semester to reschedule missed classes or to make other provisions for their course-related
For GW’s teaching policies, see http://www.gwu.edu/~academic/Teaching/main.htm

ACADEMIC INTEGRITY
I personally support the GW Code of Academic Integrity. It states: “Academic dishonesty is defined as cheating of any kind, including misrepresenting one's own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information.” Please note that allowing another student to copy your work is defined as cheating under the Academic Integrity code.

Common examples of academically dishonest behavior include, but are not limited to

1) Cheating
2) Fabrication
3) Plagiarism
4) Falsification and forgery of University academic documents
5) Facilitating academic dishonesty

Sanctions range from failure of the assignment, to failure of the course, to suspension or expulsion from the University. For the remainder of the code, see: http://www.gwu.edu/~ntegrity/code.html

All students need to be familiar with GW’s Code of Academic Integrity. Item 3 in Section 1 of Article II of the Code deals with plagiarism.

“Plagiarism - intentionally representing the words, ideas, or sequence of ideas of another as one's own in any academic exercise; failure to attribute any of the following: quotations, paraphrases, or borrowed information.”

For a full set of definitions, see: http://www.gwu.edu/~ntegrity/code.html#definition

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Plagiarism and How to Avoid It
Plagiarism is a serious matter both inside and outside academia. Students are responsible for becoming familiar with the different forms that plagiarism can take. Ignorance doesn’t exempt students from being penalized for plagiarism. It is essential to educate yourself about what constitutes plagiarism before writing an essay for a take-home exam, a term paper, a dissertation, or a report in the workplace. Students have failed the course or been expelled because of plagiarism.

You can find a good overview of plagiarism and how to avoid it at http://widstudents.wordpress.com/tag/plagiarism/

It’s worth reading through the entire web page, including the section titled "Plagiarism Tales at GW." The following document has good examples of the different forms that plagiarism can
take (in Section 4). You should read 1-4 carefully. The document should dispel the possible misconception that plagiarism is committed only when an entire paper, or large parts of a paper, are copied. That is NOT the case. Copying a sentence or even a phrase without properly attributing it constitutes plagiarism.  
http://www.ece.msstate.edu/~fowler/Classes/plagiarism.pdf

On the important distinctions among quoting, paraphrasing, and summarizing, see http://owl.english.purdue.edu/owl/resource/563/01/

On the proper use of quotations, see http://writingcenter.unc.edu/resources/handouts-demos/citation/quotations

SUPPORT FOR STUDENTS OUTSIDE THE CLASSROOM

DISABILITY SUPPORT SERVICES (DSS)
Any student who may need an accommodation based on the potential impact of a disability should contact the Disability Support Services office at 202-994-8250 in the Marvin Center, Suite 242, to establish eligibility and to coordinate reasonable accommodations. For additional information please refer to: http://gwired.gwu.edu/dss/

UNIVERSITY COUNSELING CENTER (UCC) 202-994-5300
The University Counseling Center (UCC) offers 24/7 assistance and referral to address students' personal, social, career, and study skills problems. Services for students include:
- crisis and emergency mental health consultations
- confidential assessment, counseling services (individual and small group), and referrals
http://gwired.gwu.edu/counsel/CounselingServices/AcademicSupportServices

SECURITY
In the case of an emergency, if at all possible, the class should shelter in place. If the building that the class is in is affected, follow the evacuation procedures for the building. After evacuation, seek shelter at a predetermined rendezvous location.
## CLASS SCHEDULE

<table>
<thead>
<tr>
<th>Week Beginning</th>
<th>Reading</th>
<th>Assigned</th>
<th>Assignment Due</th>
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<tbody>
<tr>
<td>January 14</td>
<td>ASW Ch. 1 – 3</td>
<td>PS. 1</td>
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<tr>
<td>January 21</td>
<td>ASW Ch. 4.1 – 4.3</td>
<td>PS. 2</td>
<td>PS. 1</td>
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<td>January 28</td>
<td>ASW Ch. 4.4 – 4.5</td>
<td>PS. 3</td>
<td>PS. 2</td>
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<td>February 4</td>
<td>ASW Ch. 5</td>
<td>PS. 4</td>
<td>PS. 3</td>
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<td>February 11</td>
<td>ASW Ch. 6.1 &amp;</td>
<td>PS. 5</td>
<td>PS. 4</td>
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<td></td>
<td>Schaums pages 36-38 &amp; 75-78</td>
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<td>February 18</td>
<td>ASW Ch. 6.2 – 6.4</td>
<td>PS. 6</td>
<td>PS. 5</td>
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<td>February 25</td>
<td>ASW Ch. 7.1 – 7.7</td>
<td>PS. 7</td>
<td>PS. 6</td>
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<td>March 4</td>
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<td>PS. 7</td>
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<td>March 4 – 10</td>
<td>MIDTERM EXAM</td>
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<td>March 11</td>
<td>SPRING BREAK – NO CLASSES</td>
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<tr>
<td>March 18</td>
<td>ASW Ch. 8.1 – 8.2</td>
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<td>March 25</td>
<td>ASW Ch. 8.3 – 8.4</td>
<td>PS. 9</td>
<td>PS. 8</td>
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<tr>
<td>April 1</td>
<td>ASW Ch. 9.1 – 9.4</td>
<td>PS. 10</td>
<td>PS. 9</td>
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<td>April 8</td>
<td>ASW Ch. 9.5 – 9.8</td>
<td>PS. 11</td>
<td>PS. 10</td>
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<td>April 15</td>
<td>ASW Ch. 10.1 – 10.2</td>
<td>PS. 12</td>
<td>PS. 11</td>
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<tr>
<td>April 22</td>
<td>ASW Ch. 10.3 – 10.4</td>
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<td>PS. 12</td>
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<td>April 29</td>
<td>ASW Ch. 11</td>
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<td>May 6</td>
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<td>May 6 – 12</td>
<td>FINAL EXAM</td>
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NOTE: In accordance with university policy, the final exam will be given during the final exam period and not the last week of the semester. For details and complete policy, see: provost.gwu.edu/administration-final-examinations-during-examination-period