Syllabus

Course: Introductory Psychological Statistics, U09 Psych 300

Semester: Fall 2019/Tuesday 6:00 – 8:30 Psychology 249

Help Session/Tuesday 4:30 – 5:30 January Hall, Suite 100 Conference Room

Description: Statistical methods are the primary tools of psychological research. No matter what branch of this field a psychologist works in, they must understand basic statistical techniques to function and grow in their work. We will introduce these methods beginning with descriptive statistics and then move on to inferential statistics illustrating each technique with practical examples. Major topics include graphic representation of data, central tendency and variability, probability, the normal distribution, sampling distributions, correlation, analysis of variance, chi-square and non-parametric tests. Emphasis will be placed on understanding the logic of statistics and on determining appropriate statistical tests. The course is rigorous; an understanding of high-school algebra is required.

Prerequisite: Psychology 100

Instructor: David Crowley, dcrowley@wustl.edu (314) 378-5173


Purchase text online: https://exploringstatistics.com/

Recommended Calculator: TI-30Xa

Weekly Course Schedule:

1. Course Introduction (Ch 1) – Aug 27
2. Frequency Distributions, Graphs, and Measures of Central Tendency: (Ch 2-3) – Sept 3
3. Variability (Ch 4) – Sept 10
4. Other Descriptive Statistics (Ch 5) - Sept 17
5. Exam 1 – Sept 24
6. Correlation and Regression (Ch 6) - Oct 1
7. Theoretical Distributions Including the Normal Distribution (Ch 7)– Oct 8
   Fall Break - Oct 15
8. Samples, Sampling Distributions, and Confidence Intervals (Ch 8) – Oct 22
9. Effect Size and NHST: One-Sample Designs (Ch 9) - Oct 29
10. Effect Size, Confidence Intervals and NHST: Two-Sample Designs (Ch 10) – Nov 5
11. Exam 2 - Nov 12
12. Analysis of Variance: Independent Samples (Ch 11) – Nov 19
13. Chi Square Tests (Ch 14) - Nov 26
14. More Nonparametric Tests - (Ch 15) - Dec 3
15. Choosing Tests and Writing Interpretations - (Ch 16) Dec 10
Grade Percentages

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage of Grade</th>
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<tbody>
<tr>
<td>3 Exams</td>
<td>60</td>
</tr>
<tr>
<td>14 Online Quizzes</td>
<td>30</td>
</tr>
<tr>
<td>Attendance</td>
<td>8</td>
</tr>
<tr>
<td>Class Participation</td>
<td>2</td>
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<tr>
<td>Total</td>
<td>100</td>
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Grade Conversion

<table>
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<th>Letter Grade</th>
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<td>73.00</td>
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Learning Objectives

1. To refresh and apply basic math skills
2. To understand the fundamental definitions of statistics and experimental design
3. To comprehend the difference between descriptive and inferential statistics
4. To understand and apply descriptive statistical techniques
5. To understand and use theoretical distributions including the normal and sampling distributions
6. To understand and apply null-hypothesis testing to experimental designs using the t-test
7. To understand and use analysis of variance
8. To understand apply correlation and regression techniques
9. To understand and apply nonparametric statistics

Course Format

1. Each session will be devoted to discussion of course content and will include sample problems.
2. The will be an online quiz for the material in each chapter to be completed by the next class meeting following coverage of the chapter.
3. There will be three exams. All class materials will be managed through Blackboard, Washington University’s online course management system.

**Attendance and Participation**

Attendance is required. Please notify the instructor before the start of class if you are unable to attend due to some work or family-related emergency. You are expected to participate actively in class discussions.

**Weekly Online Quizzes**

1. Each non-exam week there will be a quiz on the Blackboard website on the chapter(s) that we covered in class.
2. To complete these quizzes, you may use any resources EXCEPT other people. That is, don’t collaborate. Use the book, the internet, or whatever you want, but do it on your own.
3. Each quiz will contain 2-3 calculation problems, for which the solutions will be posted after the due date.
4. The quizzes are HOMEWORK intended to help you learn. Each week’s quiz will be available after class (Tuesday night), and *must be completed by 11:59 pm on the following Monday*. There is no time limit on the quizzes as long as you finish by the deadline.
5. You make retake the quizzes as often as you like but only the **highest score** achieved by the **due date and time** will be counted.
6. You make retake quizzes after the due date for practice
7. Your final quiz grade will be based on the average of the highest scoring **12 of the 13** quizzes.
8. There will be no makeup quizzes.

**JASP OPTION**

JASP is a free downloadable program that replicates many of the features of the statistics package IBM SPSS. There are four JASP assignments for this option. If you choose this option, the grading scheme below will apply. Your exams will count 40% of your final grade rather than 60%. JASP will run under Windows, MAC-OS and Linux, but not on Chromebooks. If you have a Chromebook see the instructor for a possible workaround.

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<td>4 JASP Assignments</td>
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<td>Attendance</td>
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Help

1. The instructor runs help sessions from 4:30 - 6:00 PM on class nights.
2. Students may request help at any time and can contact the instructor via email (dcrowley@wustl.edu) or phone (314-378-5173)

Exams

1. Exams will be taken during the normal class times on the dates given in the course schedule.
2. There will be three exams one after each set of chapters. Each exam will focus primarily on the chapters just covered, but will also contain questions from earlier chapters. Exams will consist of questions based on both lecture material and online quizzes.
3. If you are absent for an exam, you will get a score of 0. If illness or other extraordinary circumstances will prevent you from being present for an exam, you must notify me BEFORE THE EXAM. If I consider the absence excusable, you will be able to arrange a make-up exam within one week of the original exam date. Make-up exams are administered by appointment in the University College office.
4. If you feel that an item on your test has been graded incorrectly, you may submit the Item Review Form (posted on Blackboard), and I will re-grade the item in question.

Classroom Etiquette/Logistics

1. Be mentally present. I will strive to not be boring.
2. Do your part to minimize distraction. Silence your cell phone, no texting.
3. Laptops (muted) are okay for note-taking.
4. Food and drink are OK as long as they don’t cause distraction.
5. We usually take a break halfway through the 2 1/2-hour class.
6. Ask questions. Speak up whenever you have questions, don’t understand something, have answers, or have ideas. Asking questions is a sign of wisdom!

Accommodations and Assistance

For general academic assistance, consult your academic adviser and take advantage of Cornerstone's wide variety of student resources: http://cornerstone.wustl.edu (314-935-5970). If you require special accommodations due to medical reasons for lecture or for taking exams please contact the Disability Resources Coordinator at Cornerstone.

Academic Integrity

Students are expected to comply with the University’s policy on academic integrity. If you are uncertain about what constitutes a violation of the policy, ask the instructor, or access the policy at: http://www.wustl.edu/policies/undergraduate-academic-integrity.html

Course Evaluation

You should plan on participating in the course evaluation at the end of the semester and may do so by visiting: http://evals.wustl.edu