Attention!

This is a representative syllabus.

The syllabus for the course when you enroll may be different.

Use the syllabus provided by your instructor for the most up-to-date information. Please refer to your instructor for more information for the specific requirements for a given semester.

Feel free to contact the Psychology Advising Office for any questions regarding psychology courses either by email (psychadvising@osu.edu) or phone (614.292.5750).

Thank you!
Course Overview

Hypothesis formation and data collection are only part of the research process. Without the ability to analyze our data, we would be unable to draw any conclusions from the data we collected. Thus, the statistical techniques used for data analysis are a fundamental component of empirical research. The traditional goal in this course is to develop an understanding of how and when to use various statistical methods. The honors version of this course will also emphasize critical thinking regarding published data analysis & interpretation, as well as practice in discussing your own analyses.

Course Learning Objectives

By the end of the course, students will be able to:

1) Be able to create an accurate graph of a set of data from a set of summary descriptive statistics and/or textual description, and accurately interpret such graphs (APA 1.1c, 2.2e, 4.1f)
2) Compute and correctly interpret descriptive statistics (APA 2.2a, 2.2e, 4.1f)
3) Demonstrate an understanding of the process of null-hypothesis significance testing by using hypothesis testing steps to compute and correctly interpret z-tests, one sample t-tests, independent means t-tests, and related samples t-tests (APA 1.1c, 2.1a, 2.3a-c, 2.4f, 5.1a)
4) Identify, calculate, and interpret appropriate measures of effect size and confidence intervals (APA 2.2e, 2.3c, 2.4f, 4.1f)
5) Compute and correctly interpret bivariate correlation and simple linear regression, and interpret coefficients from multiple regression analyses (APA 2.1e, 2.2e)
6) Correctly interpret computer output from a statistical program (e.g., SPSS, SAS) for t-test, correlation, and regression analyses (APA 2.2e, 4.1f)
7) Correctly choose which statistical test to use based on data characteristics, research design, and number of variables to be analyzed (APA 2.4d, 2.4e)
8) Be able to read, understand and evaluate the statistics as presented in research articles that used t-tests, correlation, and regression (APA 2.2a, 4.1f, 5.1d)

Specific Goals & Assessment Methods

In order to meet the learning objectives of the course, we will complete a variety of in- and out-of-class activities:

<table>
<thead>
<tr>
<th>Goal</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand conceptual basis of statistics and procedures</td>
<td>• <strong>In-class</strong>: write ups of data, conceptual questions; mini-teach moments • <strong>Exams</strong>: some questions drawn from Clarifying Concepts questions at end of each chapter</td>
</tr>
<tr>
<td>Regular practice of computations and procedures of statistics</td>
<td>• <strong>In-class</strong>: practice problems, data analysis • <strong>Exams</strong>: calculation problems, procedural problems</td>
</tr>
<tr>
<td>Become proficient with Excel &amp; SPSS procedures and output</td>
<td>• <strong>In-class</strong>: practice using both programs &amp; reading output • <strong>Exams</strong>: questions on procedures and output</td>
</tr>
<tr>
<td>Practice APA style of writing about statistical results</td>
<td>• <strong>In-class</strong>: practice with multiple sets of data &amp; analyses • <strong>Exams</strong>: interpretation of writing/results, correction of errors in APA style</td>
</tr>
</tbody>
</table>

Materials


I may assign additional outside readings as appropriate, posted on Carmen.

You may wish to get SPSS for your own computer/laptop – it is free to students – available through the office of the OCIO (https://ocio.osu.edu/software/directory/slwin#spss)

Carmen

✶ Calendar for course, grades, handouts, syllabus, articles
✶ Use it often!
Top Hat

🔗 I have created a Top Hat account for Psych 2220H

Ways to Get Help with Course Material

🔗 My regular office hours, or appointment
🔗 Psychology Learning Lab – Monday 12-4pm, Tuesday- Friday 10-4, LZ15
🔗 [http://undergrad.psy.ohio-state.edu/PSYCH2220LearningLab.php](http://undergrad.psy.ohio-state.edu/PSYCH2220LearningLab.php)

Coursework

A. In-Class Work (30%)

🔗 We will spend most class days in a combination of discussion and practice
🔗 On most days, you will have an opportunity to show your work and earn credit
🔗 Some days may have more activities than other days (thus, more points available)
🔗 Activities may include, but are not limited to: working problems in groups, demonstrations of problem-solving to the class, running analysis using SPSS or Excel, finding research literature, writing up results/design in APA format

B. Mini-Teaching Moments (15%)

🔗 Each student will pick 3 opportunities from my list of ways to contribute to the knowledge of the class – this list will be available on Carmen in week 2 along with clear instructions about signing up

C. Goal Setting Activities (10%)

🔗 On 3 occasions this semester, I would like you to assess yourself and the course in terms of Learning Objectives, Transferable Skills, and your plan to be an active learner
🔗 The due dates for these are 6pm on: 1/20/17, 3/10/17, & 4/21/17
🔗 Answer the questions found in the Survey on Carmen – there is no time limit, so take your time and answer each question thoughtfully
🔗 These are done entirely on Carmen, no hard copies or email submissions will be accepted
I would expect each answer to be 75-100 words (a nice paragraph). As an example of how much writing this is, the Course Overview for this course is 93 words.

D. Exams (45%)

There will be 3 exams:
- Exam 1 – 2/8/17 - Chapters 1-4
- Exam 2 – 3/8/17 - Chapters 5-8
- Final Exam (non-cumulative)- 4/16/17 12:00pm - Chapters 9-11,15-16
Each is worth 15% of your grade, for a total of 45%

Items: Calculation & conceptual in nature - Multiple choice, True/False, Fill-in (1-2 words, or a number), SPSS printout interpretation, APA notation & style, SPSS & Excel procedures

Material from lecture and reading (even if we didn't cover it in lecture)
Variable in length & number of points
Time will be limited – 1.5 to 2 minutes per item, slightly more per item for calculation items
- You may bring a simple (i.e., non-graphing) calculator that has no access to the internet (i.e., no smartphones)

**Under no circumstances will a student be allowed to take an exam early** – the semester starts on 1/9/17 and is not complete until after final exams are through – please make arrangements to be available for this entire length of time.

Make-up Policies

A. In-class Work Make-Up Policy

- To account for the random things that come up in our lives and prevent attendance, I will allow you to make up 3 (and only 3) days
  - There is no need to give me an excuse, any absence for any reason will result in eligibility for the make-up FOR IN-CLASS WORK DAYS (see below for exam make-up policies)
- You must **email** me within 24 hours of your absence to arrange for a make-up assignment
- I will assign a due date in my return email – but generally the due date will be about 48 hours (2 days) after my reply
- Make-ups are due in electronic form to the Assignment called Make Up Work and will be graded at the end of the term during Finals Week – if you wish to know whether your answer was correct, you are welcome to visit office hours to go over your work
- YOUR FIRST 3 SUBMISSIONS WILL BE GRADED – All others will be disregarded, so choose your absences wisely, grasshopper
B. Exam Make-Up Policy

- Make-ups for exams will only be considered under the most emergent of situations.
- Under no circumstances will a make-up be scheduled without clear documentation from a professional source that demonstrates that you could not take your exam on the day it was given.
- You must contact me regarding your emergency within 24 hours of the exam, so that we may work together on whether you will be eligible for a make-up.
- You must schedule your make-up within one week of the missed exam.
- Make-up exams are not guaranteed to contain the same items as the in-class exam, but will cover the same content. They may not be graded until the end of the term.
- All make-ups will be considered on a case-by-case basis.

Grades

- Exams = 15% each, 45% total
- In-class work = 30%
- Goal Setting = 10%
- Mini-Teaching Moments = 15%

- Grading scale = University standard – no rounding, what you earn is what you get!

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<thead>
<tr>
<th>Grade</th>
<th>%</th>
<th>Grade</th>
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<th>Grade</th>
<th>%</th>
<th>Grade</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93-100</td>
<td>B+</td>
<td>87-89.9</td>
<td>C+</td>
<td>77-79.9</td>
<td>D+</td>
<td>67-69.9</td>
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<tr>
<td>A-</td>
<td>90-92.9</td>
<td>B</td>
<td>83-86.9</td>
<td>C</td>
<td>73-76.9</td>
<td>D</td>
<td>60-66.9</td>
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<tr>
<td>B-</td>
<td>80-82.9</td>
<td></td>
<td></td>
<td>C-</td>
<td>70-72.9</td>
<td>E</td>
<td>Below 60</td>
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</tbody>
</table>

Attendance

- Attendance is strongly encouraged, but not required, for this course.
- Attendance and grades show a strong positive correlation in the research literature – it is also how you will earn your Participation Points.

- If you miss a class, you are responsible for all material covered, as well as any announcements made in your absence. I do **not** provide copies of my slides or notes under **any** circumstances.

- Students are always welcome to come to office hours to look at my notes and write any notes they wish from them, regardless of whether they attended class or not.
Handwritten Submission Policy

On any day that you need to submit a handwritten answer for an electronically administered item (e.g., Tophat or Carmen), please do the following:

1. Use a full sheet of paper
2. Put your name on there in full and legibly written handwriting
3. Put the full date on your paper
4. Clearly indicate which question you are answering – you will not just be able to number them because they are not numbered in TH – you will need to write out part of the question so that we know which you are answering
5. As soon as the TH closes, you are responsible for taking your answers to Dr. C-B 
   BEFORE we discuss the answers as a class
   • If you do not bring your paper to me (or a CA) prior to the answers being discussed out loud, you will receive no credit

Please be aware that if we can’t decipher it, your grade will be a zero, so always be really clear and careful when you are answering

How I Grade Written Answers

- In general, if I ask for 2 things, I make the item worth 2 points – doing both things is necessary to earning both points
- You do NOT earn points just by typing something in – if it is a written item, Tophat may assign you a point for participating, but that is NOT your final grade. Our team will go through and grade everything you turn in
- I am looking for evidence of critical thinking – it is MUCH more important to me that you think about the issues in this course than that you are clever, witty, or “right”

Extra Credit

• Denman Undergraduate Research Forum Activity (3%)
  o Details to follow on Carmen
• Visit the Learning Lab
  o You may use up to 1 visit per week as Extra Credit
  o Each visit is worth 0.14% - thus, if you visit the LL every week (we meet for 14 total weeks), you can earn 2% total EC
  o For each visit, please fill out the Learning Lab Visit form (in Modules, Helpful for Class) & upload to the Assignment called “Learning Lab Extra Credit”
  o You must show evidence of having worked at least 4 problems relevant to that week’s material & review of at least 1 concept in that week’s chapter – provide a short written summary of what you reviewed
You Can Expect from Me…

- **Respect** for you and your contributions to this course & help mastering material
- **Thoughtful consideration** of your ideas & sincere effort to answer your questions
- **Consistent access** through email, phone, and appointments
- **Fairness** – I will not offer any one student an opportunity to earn points that I do not offer the entire class; I will not alter or award points to any student any points they did not directly earn – please do not ask me to violate this ethical code
- **Mindful Focus During Class Meetings** - I do leave my cell phone on vibrate during class in case of emergency with my children, I will NOT answer the phone during class if it is not an emergency; I will not check my email, social media, or texts during class without reason to believe it is an emergency

I Will Expect From You…

- **Respect** - for the views & backgrounds of everyone in the class & use of appropriate speech and behavior (APA 3.2, 4.1)
- **Openness** - to new ideas & ways of looking at the topics
- **Mindful Focus During Class Meetings** - please do not check email, social media, texts, phone messages, interesting internet sites that are not course-related during class meetings. If you have an emergency, please leave the room to handle it & plan to stay home that day if you would rather interact with material that is not course-related
- **Timely arrival** for class & attendance for the entire class period. If you cannot avoid being late (or know that you have to leave class early), please sit in the back to avoid disturbing the rest of the class during lecture.
- **Preparedness** - Completion of readings BEFORE class
- **Honesty** - DO NOT CHEAT IN MY CLASS! It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct (http://studentlife.osu.edu/csc/)
Student Stress

A recent American College Health Survey found stress, sleep problems, anxiety, depression, interpersonal concerns, death of a significant other, and alcohol use among the top ten health impediments to academic performance. Students experiencing personal problems or situational crises during the term are encouraged to contact the OSU Counseling and Consultation Service (614-292- 5766; http://ccs.osu.edu/default.aspx) for assistance, support and advocacy. This service is free and confidential.

Title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at http://titleix.osu.edu/ or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu

Disability Services

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292- 3307; http://slds.osu.edu/; 098 Baker Hall, 113 W. 12th Avenue.
<table>
<thead>
<tr>
<th>week</th>
<th>day</th>
<th>topic</th>
<th>Reading(s)</th>
<th>Class Events/Due Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>W – 1/11</td>
<td>Intro to Course – Get to know each other &amp; the course</td>
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<tr>
<td></td>
<td>F – 1/13</td>
<td>DATA DAY – design &amp; collect data</td>
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<td>2</td>
<td>W – 1/18</td>
<td>Frequency Distributions</td>
<td>Chapter 2</td>
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<tr>
<td></td>
<td>F – 1/20</td>
<td>Visual Displays of Data</td>
<td>Chapter 3</td>
<td>Goal Setting #1 due by 6pm</td>
</tr>
<tr>
<td>3</td>
<td>W – 1/25</td>
<td>DATA DAY – graphing data</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>F – 1/27</td>
<td>Central Tendency &amp; Variability</td>
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<tr>
<td>4</td>
<td>W – 2/1</td>
<td>Finish Variability &amp; Practice</td>
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<td></td>
<td>F – 2/3</td>
<td>DATA DAY</td>
<td></td>
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<tr>
<td>5</td>
<td>W – 2/8</td>
<td><strong>EXAM 1</strong></td>
<td><strong>Chapters 1–4</strong></td>
<td></td>
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<tr>
<td></td>
<td>F – 2/10</td>
<td>Sampling, Probability, &amp; Normal Curves – M&amp;M DAY</td>
<td>Chapters 5 &amp; 6</td>
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<tr>
<td>6</td>
<td>W – 2/15</td>
<td>Sampling, Probability, &amp; Normal Curves</td>
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<tr>
<td></td>
<td>F – 2/17</td>
<td>The Standard Normal Distribution &amp; z-scores</td>
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<td>7</td>
<td>W – 2/22</td>
<td>Central Limit Theorem &amp; Hypothesis Testing</td>
<td>Chapter 7</td>
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<tr>
<td></td>
<td>F – 2/24</td>
<td>DATA DAY – z-testing</td>
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<tr>
<td>8</td>
<td>W – 3/1</td>
<td>Confidence Intervals &amp; Effect Size 101</td>
<td>Chapter 8</td>
<td></td>
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<td></td>
<td>F – 3/3</td>
<td>Statistical Power 101 &amp; Practice</td>
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<tr>
<td>9</td>
<td>W – 3/8</td>
<td><strong>EXAM 2</strong></td>
<td><strong>Chapters 5–8</strong></td>
<td>Goal Setting #2 Due by 6pm</td>
</tr>
<tr>
<td></td>
<td>F – 3/10</td>
<td>DAY OFF – ENJOY!</td>
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<tr>
<td>10</td>
<td>W – 3/15</td>
<td>SPRING BREAK – NO CLASSES</td>
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<td>F – 3/17</td>
<td>SPRING BREAK – NO CLASSES</td>
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<tr>
<td>11</td>
<td>W – 3/22</td>
<td>The t-distribution &amp; t-tests</td>
<td>Chapter 9</td>
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<td>F – 3/24</td>
<td>CI &amp; effect size for t-tests &amp; Practice</td>
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<tr>
<td>12</td>
<td>W – 3/29</td>
<td>Independent Sample t-tests</td>
<td>Chapter 11</td>
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<td>F – 3/31</td>
<td>Independent Sample t-tests</td>
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<tr>
<td>13</td>
<td>W – 4/5</td>
<td>DATA DAY</td>
<td>Chapter 10</td>
<td></td>
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<td></td>
<td>F – 4/7</td>
<td>Paired t-tests</td>
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<tr>
<td>14</td>
<td>W – 4/12</td>
<td>DATA DAY</td>
<td>Chapter 15</td>
<td></td>
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<td></td>
<td>F – 4/14</td>
<td>Correlation</td>
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<tr>
<td>15</td>
<td>W – 4/19</td>
<td>Regression – Simple Linear Regression</td>
<td>Chapter 16</td>
<td>Goal Setting #3 due by 6pm</td>
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<tr>
<td></td>
<td>F – 4/21</td>
<td>Regression – Multiple Regression</td>
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<td>16</td>
<td>EX</td>
<td></td>
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<tr>
<td>17</td>
<td>W – 4/26</td>
<td><strong>FINAL EXAM</strong></td>
<td><strong>Chapters 9–11, 15–16</strong></td>
<td></td>
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