Research Design and Methodology
PSYCH 301
Summer 2010

Meets: Kildee Room 105, M, T, W, R, F, 11:00 AM – 12:00 PM
Prerequisites: Statistics 101

Instructors:
Kelly Liao  
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Office: Lagomarcino Hall W239  
Office Hours: M, W, R – 12:10 – 1:10
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Office Hours: M, W, R – 12:10 – 1:10

Course Objectives:
Psych 301 is one of the most important courses in the undergraduate psychology curriculum. In this class, you will learn how research is designed and how research data/findings are interpreted. You will become familiar with research methods which will improve your understanding of psychological research presented in content courses as well as in everyday life (e.g., online articles, blogs, etc.). You will acquire knowledge in statistical analysis of data including knowing what statistical test is appropriate for a data set, how to perform the test, and how to interpret the results of the test. The principal goal of the course is to provide you with the tools needed to critically analyze empirical psychological research.

Tentative course schedule
<table>
<thead>
<tr>
<th>Day</th>
<th>Topics</th>
<th>Chapters</th>
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</thead>
<tbody>
<tr>
<td>May 18 &amp; 19</td>
<td>The Scientific method</td>
<td>1</td>
</tr>
<tr>
<td>May 20 &amp; 21</td>
<td>Research ethics, Behavioral variation</td>
<td>14, 2</td>
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<tr>
<td>May 24 &amp; 25</td>
<td>Measurement</td>
<td>3, 4</td>
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<tr>
<td>May 26 &amp; 27</td>
<td>Measurement</td>
<td>3, 4</td>
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EXAM #1, Friday, May 28th

June 1 & 2  Descriptive research and statistics   5
June 3 & 4  Correlational research, Pearson’s $r$  6
June 7 & 8  Correlational research, Pearson’s $r$ and Advanced correlation 7
June 9 & 10 Correlational research, Pearson’s $r$ and Advanced correlation 7

EXAM #2, Friday, June 11th

June 14 & 15 Experimental validity                  8
June 16 & 17 Experimental validity                  8
June 18 & 21 Experimental Design- One way, Two way, Factorial 9
June 22 & 23 Experimental Design- One way, Two way, Factorial 9
June 24     Review

EXAM #3, Friday, June 25th

June 28 & 29 Analysis of experimental data – t-test, independent/paired sample 10
June 30 & Jul 1 Analysis of experimental data – t-test, independent/paired sample 10
July 2 & 6   Analysis of experimental data – ANOVA Main & Interaction effects 11
July 7       Analysis of experimental data – ANOVA Main & Interaction effects 11
July 8       Review

Exam #4, Friday, July 9th
Dates to note:

May 31 Monday NO CLASS – Memorial Day
July 5 Monday NO CLASS – July 4th Holiday

Grading

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
<th>Notes</th>
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<tbody>
<tr>
<td>30 quizzes</td>
<td>2 points each</td>
<td>56 points maximum (drop 2 lowest)</td>
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<tr>
<td>SPSS Exercise #1</td>
<td>5 points</td>
<td>5 points</td>
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<tr>
<td>SPSS Exercise #2</td>
<td>5 points</td>
<td>5 points</td>
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<tr>
<td>SPSS Exercise #3</td>
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<tr>
<td>Homework #1</td>
<td>10 points</td>
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<tr>
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<tr>
<td>Exam #1</td>
<td>30 points</td>
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<tr>
<td>Exam #2</td>
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<td>Exam #3</td>
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<tr>
<td>Exam #4</td>
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<td>30 points</td>
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<tr>
<td>Total</td>
<td>221 points</td>
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</tbody>
</table>

Grades will be assigned based on points (not percentages) according to the following:

- 207-221 A
- 198-206 A–
- 192-197 B+
- 185-191 B
- 176-184 B–
- 170-175 C+
- 163-169 C
- 154-162 C–
- 147-153 D+
- 141-146 D
- 132-140 D–
- 120-129 F
- 0-131 F

SPSS Exercises

SPSS exercises are designed to give you exposure to how to use a computer software program to analyze data. These exercises are designed to show you different methods in which data can be analyzed depending on the type of data collected. Typically, on SPSS exercise days, we will reserve the computer room in Lagomarcino Hall and spend some, if not the majority, of the class time in the computer room.

Quizzes

Quizzes will be given on almost every day of class (with the exceptions of exam days and days after exams). It is important to be exposed to and practice statistics frequently, so that you become familiar with how to perform these operations on exams and in your daily lives. These quizzes are not designed to be overly hard, but rather give you more exposure to the material and provide you with points for regular attendance. You will be able to drop your two lowest quiz scores. You will not be able to make up quizzes that are missed. We will however drop your two lowest quiz scores before computing your final grade, so you could miss up to two quizzes without penalty.

Homework

Homework will be due on dates to be announced in class. For each day a homework is turned in after the due date, points will be deducted depending on how late the assignment is turned in.
Exams (May 28, June 11, 25, and July 9)
Students are expected to take all examinations at the regularly scheduled time. If you must miss an exam for any reason, please contact the appropriate instructor as soon as possible to schedule a makeup. All Exams must be made up before the exam is covered in class. Exams will consist of multiple choice and short answer questions. Each exam will be worth 30 points.

Please note that if you miss an exam, you must bring documentation (e.g., doctor's note or funeral program) to verify the cause of your absence. If you cannot make up the missed exam or if you do not have documentation to verify the cause of your absence, you will receive zero points on the exam.

Disability accommodations
Please address any special needs or special accommodations with us at the beginning of the semester or as soon as you become aware of your needs. Those seeking accommodations based on disabilities should obtain a Student Academic Accommodation Request (SAAR) form from the Student Disability Resource (SDR) office (phone 515-294-7220). SDR is located on the main floor of the Student Services Building, Room 1076.