Catalog Course Description

The Research Methods and Statistics series provides students with knowledge and experience regarding the role of research methods in professional psychology practice. Students gain a progressively complex understanding of the relevance of a variety of research methods to professional practice, and the application of these methods to clinical problems.

Instructor's Course Description and Purpose

- The Research Methods & Statistics II course is in alignment with the Wright Institute goal of educating students in critical thinking and problem-solving as fundamental approaches to their clinical work. The course focuses on descriptive and inferential statistical methods that are commonly used in the field of psychology. Emphasis is given to assisting your understanding and interpretation of statistics in quantitative academic journals of psychology.

- Clinicians to Society, Multicultural Competence and Diversity Objectives: The ability to understand and effectively apply psychological research is pivotal to providing culturally appropriate services to clients of multiculturally diverse backgrounds. Increasing one’s knowledge of multiculturalism from empirical and credible research articles is key to the training of psychologists.

Program Goals and Objectives

This course aims to meet the following goals and objectives of the Psy.D. program.

Goal 1: Provide students with a broad and general foundation in the science of clinical psychology.

Objective 1: Students will learn the current body of knowledge in research methods and statistics.

Objective 3: Students will develop skills that facilitate life-long learning, scholarly inquiry, and professional problem-solving as clinical psychologists in the context of an evolving body of scientific and professional knowledge.

Goal 3: Provide students with knowledge of cultural and individual diversity

Objective 11: Students will learn about individual and group variation and understand how such diversity affects bio-psycho-social processes.

Course-specific Learning Objectives

1) Students will analyze and interpret statistics in research studies and psychological peer-reviewed journal articles.
2) Students will demonstrate understanding of descriptive and inferential statistics, including interpreting the results of parametric and nonparametric tests.
3) Students will utilize and apply accurate statistical concepts in discussions, presentations, and written exercises.

**Curricular Context**

This course is the third in the research series (*Tests and Measures, Research Methods, Statistics, Proposal Development*) designed to improve your skills as a consumer of psychological research, increase your proficiency in statistics, and assist you in your dissertation work. This course satisfies the American Psychological Association (APA) accreditation requirement that students who attend APA programs become competent in the curriculum area of “Techniques of data analysis”.

**Instructional Methods**

Primary methods of instruction include powerpoint lectures, group discussion, and statistical problem solving exercises.

**Course Requirements**

**Exam.** The exam consists of 50-item multiple choice and short answer questions. It will be cumulative and take place on the last day of class. The statistics activities (see below) will serve as a review for the exam, and you can bring in a personalized 8.5x11 study sheet into the exam. Each student may only bring in an 8.5x11 note sheet she or he created. A 70% or higher is a passing grade.

**Presentation on Quantitative Article.** In pairs, students will present on the results section of a peer reviewed, quantitative journal article that is (a) related to a research topic of interest that corresponds with an assigned statistical test or (b) identified by the professor & specified below in the “Course Schedule” section below with asterisks (*). If you do the former, you need to bring copies of your selected article for the instructor and your peers one week before the scheduled presentation. Also, the article needs to be recent (i.e., within the last 10 years) and from a peer reviewed journal. The presentation should span for approximately 45 minutes. Plan on 25 minutes being a didactic presentation and 20 minutes for questions/discussion. For the didactic portion, use visual material to correspond with your lecture (e.g., powerpoints, an outline).

The presentation should cover #s 1-6 below, and needs to integrate multicultural considerations.

1. Report on the identity of the academic journal your article comes from (i.e., When and how did journal originate? What type of articles does it publish?)
2. Report on descriptive statistics of the sample
3. Report on validity and reliability of the measurements

4. Provide brief description of the meaning of the statistics used to analyze the data

5. Report on the results, including a visual illustration of some of the results (e.g., table, graph, histogram, pie chart)

6. Generate two questions about the article (related to statistics) for the class. Prepare answers to these questions.

**Study Session Activity**: Study Session Activity. In pairs, students will create and facilitate a 20-minute activity that promotes the first student learning outcome of applying critical thinking and problem solving to research and statistics, and in turn also serves as a study session for the exam. Through the activity, your aim is to engage your peers with statistics in a creative and novel way. Possible topics include: 1. Measures of Variability, Normal Distribution, & Statistical Significance 2. Correlations 3. Regressions 4. T-tests 5. ANOVAs 6. MANOVA & Factorial ANOVA 7. Regression. Examples of activities include: games, trivia, small group discussion, and debates.

*Scheduling of Presentation and Study Session Activity*: Sign-ups for Presentations and Activities will occur during the 1st and 2nd weeks of class. If you need to switch presentation dates, this must be arranged in advance and approved by the instructor.

**Student Learning Outcomes and Assessment Measures**

1) Students will demonstrate the ability to apply critical thinking and problem solving to research and statistics. This outcome will primarily be assessed through an exam and a study session activity.

2) Students will illustrate competence in using the literature of science and practice so as to remain current with new developments and maintain a reference-based practice. This outcome will primarily be assessed through a participation in class and a presentation.

3) Students will demonstrate competence and sensitivity when applying psychological literature to diverse clients. This outcome will primarily be assessed through a participation in class and a presentation.

**Evaluation Rubrics**

**Participation.** Your participation is essential for your comprehension of the material and demonstration of student learning. Student participation also contributes to class morale and group learning. Verbal and non-verbal forms of participating are valued. Successful participation includes answering the instructor’s questions, asking appropriate questions, offering thoughtful reflections, and engaging in active listening. Effective participation also precipitates professional behavior, including coming prepared to class, completing required reading, and bringing course material (e.g., syllabus, reading, handouts, etc.) to class. Full participation also includes arriving and returning from breaks on time, refraining from using laptops and phones in class for non-
academic purposes, remaining engaged until instruction has ended, listening to the speaker/waiting for your turn to speak, and not working on other courses.

*Importance of Attendance.* Email the instructor ahead of time if you are going to miss class. Absence and lateness are evaluated in the Student Evaluation Form. As per school policy, you cannot miss more than 2 classes, and doing so can lead to failing the course. Tardiness and missing any amount of class makes earning a *Pass with Concern* a viable consequence.

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**Rubric for Statistics Presentation** (20 points)

<table>
<thead>
<tr>
<th>Topic/Points</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice of Article (1pt.)</td>
<td>Article Selection</td>
</tr>
<tr>
<td></td>
<td>( ) Quantitative article chosen by professor <em>OR</em></td>
</tr>
<tr>
<td></td>
<td>( ) Quantitative article within last 10 years related to your research interests; brought copies of article for the instructor and your peers by the 3rd class of the trimester.</td>
</tr>
<tr>
<td>Identity of Journal (1 pt.)</td>
<td>( ) Included concise, informative coverage of academic journal’s identity.</td>
</tr>
<tr>
<td></td>
<td>( ) Addressed when and how the journal originated.</td>
</tr>
<tr>
<td></td>
<td>( ) Identified type of articles the journal publishes</td>
</tr>
<tr>
<td>Journal article synopsis (12 pts.)</td>
<td>Reported accurate, clear description of:</td>
</tr>
<tr>
<td></td>
<td>( ) descriptive statistics of sample</td>
</tr>
<tr>
<td></td>
<td>( ) psychometric properties (i.e., validity &amp; reliability) of measurements</td>
</tr>
<tr>
<td></td>
<td>( ) statistics used to analyze data</td>
</tr>
<tr>
<td></td>
<td>( ) results, including a visual illustration</td>
</tr>
<tr>
<td></td>
<td>( ) Integrated multicultural considerations</td>
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</tbody>
</table>
Questions for class (2 pts.)

( ) Proposed 2 questions that promoted student learning regarding statistical concepts.
( ) Prepared correct, meaningful answers to the questions.

Presentation skills (4pts.)

( ) Presented with oral clarity.                ( ) Effectively engaged audience.
( ) Used time effectively.                    ( ) Implemented visual material.

**Rubric for Study Session Activity** (15 points)

<table>
<thead>
<tr>
<th>Possible Points</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content: 5 points</td>
<td>Provided an accurate, concise study session on the assigned statistical topic(s) for the exam</td>
</tr>
<tr>
<td>Creative student learning: 5 points</td>
<td>Promoted student learning in a creative way that effectively engaged class members.</td>
</tr>
<tr>
<td>Presentation skills: 5 points</td>
<td>( ) Presented with oral clarity.</td>
</tr>
<tr>
<td></td>
<td>( ) Met 20 minute time frame &amp; used time effectively.</td>
</tr>
<tr>
<td></td>
<td>( ) Both partners collaborated equally in presentation</td>
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</tbody>
</table>

**Grading Policy**

In order to pass the course, the student must earn 70% or higher on each assignment: the final exam, the presentation, the study session, and participation.

<table>
<thead>
<tr>
<th>Points*</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>Exam</td>
</tr>
</tbody>
</table>
Points* | Description | Points Possible
---|---|---
20 | Presentation | 20
15 | Study Session | 15
15 | Participation | 15
100 | Total Points Possible | 100

Professional Conduct and Other Guidelines

The Association of Psychology Training Clinics (2004) states, “the ability to form and maintain productive relationships with others is a cornerstone of professional psychology. Productive relationships are respectful, supportive, professional, and ethical.” The Wright Institute Professional Conduct Task Force (PCTF) defined unprofessional conduct as “any transgression considered to be unethical, inappropriate, improper, irresponsible, or uncivil on a continuum from very minor to extremely serious”. Wright Institute students are expected to conduct themselves in a professional manner at all times.

Disability Resources

*The Wright Institute must approve all accommodations. It is the student’s responsibility to contact the Coordinator of Disability Resources, Tricia O’Reilly, before any accommodations can be made. The Wright Institute is dedicated to making appropriate and reasonable academic adjustments to accommodate the needs of students with disabilities in accordance with the requirements of Section 504 and the requirements of ADA. Article F.5. of the Wright Institute’s Student Handbook sets forth the requirements and procedures for seeking a reasonable accommodation.*

Required Resources

Course reader available for purchase at Copy Central at 2560 Bancroft Way Berkeley. Ph: (510) 848-8649. APA citations of readings are listed below under the Course Schedule. Note that some articles are available online and will not be included in the reader in order to reduce costs. For all articles listed as being available online, please visit the Wright Institute library website at [http://wi.edu/library](http://wi.edu/library), click Library Resources, and then scroll down and click Psychology Journal Locator. Once this page opens up, type the name of the journal that the article is listed in. Once the journal comes up, click it and then click on the appropriate year/issue the article is in. For any questions, please contact Jason Strauss at jstrauss@wi.edu or visit the library.

Suggested Resources

None listed for this syllabus
Course Schedule

Week 1. January 8, 2015
Review Syllabus

Descriptive Statistics, Central Tendency, Variability, Reliability and Validity

Week 2. January 15, 2015
Bring photocopies of your articles for the presentations

Hypothesis Testing & Statistical Significance
Handout Exercise 14 and 18

Week 3. January 22, 2015 NO CLASS

Meet with your partner to prepare for your presentation.

Correlations
Handout Exercise 26 and 27
Presentations: __________________, ________________


Emotion-oriented coping, avoidance coping, and fear of pain as mediators of the relationship


**Week 5. February 5, 2015**

**Regression**

Presentations: ______________, ______________


**Week 6. February 12, 2015**

**T-tests**

**Handout Exercise 37, 41, and 43**

Presentations: ______________, ______________


**Week 7. February 19, 2015**

**ANOVA**

**Handout Exercise 49**

Presentations: ______________, ______________


Week 8. February 26, 2015

ANOVA and SPSS (Statistical Program for Social Sciences)

Handout Exercise 50

Presentations: ______________, ______________


Week 9. March 5, 2015

MANOVA and Factorial ANOVA

Handout Exercise 51

Presentations: ______________, ______________


**Week 10. March 12, 2015**

**Chi-Square Tests**

**Handout Exercise 55 and 56**

Presentations: ______________, ______________


Week 11. March 19, 2015


Study Session Activities:

a. Measures of Variability, Normal Distribution, & Statistical Significance
b. Correlations
c. Regression
d. T-tests

Week 12. March 26, 2015

Study Session Activities:

a. ANOVAs
b. MANOVA & Factorial ANOVA
c. Chi-Square & Nonparametric Tests

Week 13. April 2, 2015

Final Exam

Bibliography


doi:10.1177/001100009334093
doi:10.1037/a0018668


Kletter, E. (2003). Counseling as an intervention for the cocaine-