**Research Methods I**

Psychology 292, Fall 2018, Block 1

Instructor: Dr. Steven Neese

Office/Hours: Law Hall 106D, Mon. 1:00-2:00 or by appointment

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**Meeting Times:** Monday-Friday, 9am – Noon (unless otherwise specified).

**Text:** Shaughnessy, J. J., Zechmeister, E. B., & Zechmeister, J. S. (2015). *Research methods in psychology* (10th ed.). New York: McGraw-Hill.

**Optional Resource:** American Psychological Association . (2010). *Publication manual of the American Psychological Association (6th ed.)*. Author: Washington, DC.

**Course Description:** This course is an introduction to the scientific study and analysis of behavior. This course will consist of lecture, classroom discussions, laboratory activities, and the completion of an independent research project.

**Course Objectives - knowledge:**

Students will demonstrate knowledge (comprehension, application and evaluation) of the following concepts through class activities and satisfactory performance on exams:

1. Comprehension of the steps and appropriate applications of the scientific method.

2. Evaluation of a variety of experimental and statistical designs, and the ability to evaluate the strengths and weaknesses of each.

3. Application of both the scientific method and the ethical principles in research involving human participants.

**Course Objectives - writing:**

Successful completion of drafts and a final Research Project will demonstrate skills in the following areas:

1. Scientific writing skills, APA style, and organizational abilities.

2. Library research skills and the use of scholarly journals.

3. Critical thinking and problem-solving skills.

4. Adherence to APA ethical guidelines.

**Course Objectives - statistics:**

Students will demonstrate knowledge with data visualization and data analysis. Specifically, students will increase knowledge of descriptive statistics, including:

1. Measures of central tendency and measures of effect size.
2. Independent samples t-tests, dependent samples t-test, one way ANOVA, one way repeated measures ANOVA, factorial ANOVA, and Pearson’s coefficient of correlation.

**Educational Priorities and Outcomes:** The components of the course fosters the Educational Priorities and Outcomes of Cornell College as follows:

**Learning outcomes - After successfully completing this course, you will be able to:**

1. Utilize their quantitative reasoning skills, critical thinking skills, written and oral communication skills, through research assignments and laboratories:
   1. *communication via written research project and oral defense*
   2. *inquiry, knowledge, and reasoning via research question, data collection, hypothesis testing and exams*
2. Recognize and respect human diversity and examine ethical principles related to research in psychology and related disciplines and apply psychological principles to promote personal development:
   1. *ethical behavior via understanding human and animal research ethics, completion of informed consent forms*

**Summary Statement:** This course supports the Educational Priorities and Outcomes of Cornell College with emphases on knowledge, inquiry, reasoning, communication, and ethical behavior.

**Grading Breakdown:**

1. **Semester exams (60 points each):**

There will be 3 exams throughout the semester. All exams will be open-note; we will discuss the specifics of this on the first day of class. **Make-up exams will be given only for an approved reason and scheduled within 2 days of the actual exam date.**

1. **Presentation and class participation:**

**Class Presentation (15 points: Appendix 3):** Near the end of the semester you will make a brief presentation to the class that provides an overview of your research. This presentation will be modeled after the APA Annual Convention oral presentation formats [A scoring rubric (Appendix 3) is attached to the end of this syllabus.]. You will have ***8 minutes*** to present your research, followed by a few minutes to answer questions from the audience. The use of PowerPoint presentation software will be necessary. Attendance is MANDATORY on all presentation days.

**Class participation (15 points):** I expect all in class to join in discussions to contribute to the class. You are expected to participate during class both by asking questions and actively listening to others. You will be graded on both the frequency and the quality of your participation throughout the course. This grade will be determined by the instructor at the end of the course including:

**Absence Policy:** Students are allowed a total of **2 unexcused absences (not including presentation days, see above).** Given the nature of this course, missing even a single day of classwork can put you behind. Please notify me if you are planning on missing a course period and ask another class member to pass on the information you missed.

**Tardiness Policy:** Arriving late to class is disruptive to others. Therefore, all students should arrive on time for each class session. Excessive tardiness will result in a loss of participation points.

1. **Research Project and Paper:**

**For all assignments detailed below, APA format must be followed.** Examples and guides are provided in the text (*beginning on page 417*), the APA publication manual, and at <https://owl.english.purdue.edu/owl/resource/560/01/>

In order to facilitate understanding of psychological research, as well as to enhance research writing, quantitative reasoning skills, and critical thinking skills, students will complete an independent research project. Students will write an APA style research paper based on the project*. In this paper, students will provide the necessary sections detailed on pages 423-434 in the text.*

**Late work for any of the research activities related to the project will not be accepted without a documented excuse.**

**Research Proposal (25 points):** This assignment is designed to clarify your thoughts about a possible research idea. Students should submit a description of their proposed research project. Specifically, students should propose a study that can be conducted in a very short period of time (~2 days) on the Cornell College campus. You will need to be explicit in your writing in an effort to orient the reader what you expect to test in your project. The brief overview should include ***8 citations*** for the sources you intend to cover in your paper. Of these, at least 6 need to be research-based, and 4 from the last 10 years. Please see me if you have questions about the appropriateness of any sources you find. This assignment must include the following information (2 pages, typed, double-spaced):

1. A title page;

2. A purpose statement;

3. A brief outline of the relevant literature related to (or that led to) your proposed hypothesis (including any operational definitions of any constructs in your hypothesis);

4. Formally state your proposed hypothesis;

5. The proposed design, measures, and procedure;

6. An APA style reference page.

**Informed Consent Statement (10 points):** Each student will submit a copy of their informed consent statement, written in accordance with APA guidelines for the ethical treatment of human participants in research studies.

**Introduction Draft (45 points; Appendix 1):** Using the feedback from the research proposal, a draft of the introduction (at least 3 pages), a reference page, and title page will be submitted. The purpose of the draft is to provide structured (but limited) feedback on your current progress.

**Methods, Results and Discussion Draft (65 points; Appendix 2):** The Methods section should include a brief, yet detailed description of the participants, materials, and procedures, including a description of the proposed statistical analysis (pages as needed). The Results section should include an APA formatted report of the statistical analysis and either an APA style table or an APA style figure summarizing results (pages as needed). The Discussion section (at least 3 pages) should summarize key findings and relate them to the current literature and to the existing theory reviewed in the Introduction. Specifically, the Discussion section should delineate how the findings of the project contribute to the existing literature. The Discussion section should also overview the limitations of the research, including limitations with the methodology. Finally, the Discussion should provide a future directions section where specific ideas are given for the focus of future research. **Be sure to include a title page and a reference page.**

**Final Research Project (100 points):** Using the feedback from previous drafts as your basis, the final research project will consist of a Title Page, ***Abstract (150 words)***, Introduction, Method, Results, Discussion, and Reference Page. Footnotes and Appendices are also required (as necessary). Along with the final draft, students should also submit their raw data and all project materials (informed consent statements, copies of actual data, one copy of the debriefing statement). Finally, an electronic version of the SPSS dataset and an electronic version of SPSS output must be submitted via e-mail.

**Grading:**

Exams x 3 180

Research Proposal**\*** 25

Introduction Draft**\*** 45

Informed Consent\* 10

Methods/Results/Discussion Draft**\*** 65

Class Presentation 15

Final Research Project**\*** 100

Class Participation 15

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**\* Late work for any of the research activities related to the project will not be accepted without a documented excuse.**

**The grade scale is:**

93 or above (A) 87-89% (B+) 77-79% (C+) 67-69% (D+) below 60 (F)

90-92% (A-) 83-86% (B) 73-76% (C) 63-66% (D)

80-82% (B-) 70-72% (C-) 60-62% (D-)

**Technology in class:**

1. **Laptop computers:** Please bring your laptop to class daily.
2. **Cell phones:** Cell phone interruptions are unnecessary, so please ensure that your cell phone does not ring during class. Text messaging during class time is inappropriate, and using the phone as a clock can be disruptive. **We will discuss the cell phone policy in depth on the first day of classes.**

**Cornell College Policies:**

**Academic Honesty expectations:** Cornell College expects all members of the Cornell community to act with academic integrity. An important aspect of academic integrity is respecting the work of others. A student is expected to explicitly acknowledge ideas, claims, observations, or data of others, unless generally known. When a piece of work is submitted for credit, a student is asserting that the submission is her or his work unless there is a citation of a specific source. If there is no appropriate acknowledgement of sources, whether intended or not, this may constitute a violation of the College’s requirement for honesty in academic work and may be treated as a case of academic dishonesty. The procedures regarding how the College deals with cases of academic dishonesty appear in The Catalogue, under the heading “Academic Honesty."

**Students with disabilities:** Cornell College makes reasonable accommodations for persons with disabilities.  Students should notify the Coordinator of Academic Support and Advising and their course instructor of any disability related accommodations within the first three days of the term for which the accommodations are required, due to the fast pace of the block format.  For more information on the documentation required to establish the need for accommodations and the process of requesting the accommodations, see <http://www.cornellcollege.edu/academic-support-and-advising/disabilities/index.shtml>.

*These guidelines are described in detail to serve as a point of reference should questions arrive. This document serves as a contract between the student and the instructor.*

**Schedule:**

We may need to make adjustments as we go. I’ll make announcements of nay necessary changes in class or via e-mail as we progress through the block.

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| --- | --- | --- | --- |
| **Date** | **Lecture topic/Reading** | **Statistical Topic/Reading** | **Assignment Due** |
| M August 27 | Overview of Course, Science of Psychology,  Research Question Development,  Idea Day |  |  |
| T August 28 | Library Day  **Chapter 1** |  |  |
| W August 29 | Scientific Method  **Chapter 2**  Research Proposal Overview **(pages 418-424; 432-33)** |  |  |
| R August 30 | Observation  **Chapter 4** | Central Tendency  **Pages 343-356** |  |
| F August 31 | Ethics  **Chapter 3**  Writing an Introduction **(pages 418-424)** | Hypothesis Testing and Correlation  **Pages 367-375; 380-386** | Research Proposal |
| M September 3 | **Exam 1** |  |  |
| T September 4 | Survey Research  **Chapter 5**  Writing a Methods Section  **(page 427)** | Confidence Intervals  **Pages 356-365** | Informed Consent |
| W September 5 | Independent Groups  **Chapter 6** | Independent t-test  **Pages 386-387** |  |
| R September 6 | Independent Groups  **Chapter 6** | One-Way ANOVA  **Pages 393-403** | Intro Draft |
| F September 7 | **Research Day** |  |  |
| M September 10 | Repeated Measures  **Chapter 7** | Dependent t-test  **Pages 387-392** |  |
| T September 11 | **Exam 2** |  |  |
| W September 12 | **Statistics Lab Day**  Writing a Results Section **(pages 427-431)**  Writing a Discussion Section **(pages 431-432)** | RM ANOVA  **Pages 403-406** |  |
| R September 13 | Complex Designs  **Chapter 7** | Factorial ANOVA  **Pages 407-415**  Chi-Square |  |
| F September 14 | Quasi-Experimental Designs  **Chapter 10**  Writing an Abstract **(pages 424-425)**  Presentation Requirements **(pages 434-435)** | Stats Wrap-Up | Methods/Results/ Discussion Draft |
| M September 17 | **Exam 3** |  |  |
| T September 18 | Presentations |  |  |
| W September 19 | **Final Research Project Due at Noon** |  | Final Research Project |

**Appendix 1**

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| **Category** | **Rating** |  |  |  | **Score** |
|  | **0-2** | **2** | **3-4** | **5** |  |
| **Introductory Paragraph** | No opening sentence and/or use of operational definitions, no transition to general idea of the paper. | Weak opening sentence and use of operational definitions, loosely expresses the general idea of the paper. | Adequate opening sentence and proper use of operational definitions, expresses the general idea of the paper. | Strong opening sentence, proper use of operational definitions, expresses the overall idea of the paper. |  |
| **Theme** | No organization, sequencing, or structure. | Weakly organized with no logical sequencing or structure. | Well organized, but demonstrates illogical sequencing or structure. | Well organized, demonstrates logical sequencing and structure. |  |
| **Background/**  **Foundation** | No conclusions are made from the evidence offered. | There is some indication of conclusions from the evidence offered. | Conclusions are reached from the evidence offered. | Detailed conclusions are reached from the evidence offered. |  |
| **Hypotheses/ Purpose statement** | Hypotheses were not formed/not apparent from the literature review. | Hypotheses were not formed but could be formed through the literature review. | Hypotheses are formed through the literature review. | Hypotheses are formed through the literature review and clearly stated. |  |
| **Articles** | Information is gathered from 2 sources. | Information is gathered from 4 sources. | Information is gathered from 6 sources. | Information is gathered from 8 sources. |  |
| **Grammar** | There are > 8 grammatical/ spelling errors. | There are 6-7 grammatical/ spelling errors. | There are 4-5 grammatical/ spelling errors. | There are <3 grammatical/ spelling errors. |  |
| **Reference Sheet** | Information is not cited or is cited incorrectly. | Information is cited, but has errors. | Information is cited properly. | Information is cited properly and in APA format. |  |
| **Format** | Font, spacing, and APA format are incorrect. | Font, spacing, or APA format is correct. | Font and spacing, font and APA, or spacing and APA are correct. | Font, spacing, and APA format are correct. |  |
| **Pages** | The **introduction** is 1 page in length. | The **introduction** is 1.5 pages in length. | The **introduction** is at least 2 to 2.5 pages in length. | The **introduction** is at least 3 pages in length. |  |

**Appendix 2**

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| **Category** | **Rating** |  |  |  | **Score** |
|  | **0-2** | **2** | **3-4** | **5** |  |
| **Participants and materials** | No description of participants and /or steps are no materials listed | Weak description of participants and some materials listed | Participants and materials are listed but lack detail. | Detailed description of participants and material are listed. |  |
| **Procedures and statistical analysis** | No procedures are listed and /or data analysis is missing. | Some procedures are listed/ Some data analysis in included. | Procedures and data analysis are listed but not fully explained. | Procedures and data analysis are listed and detailed. |  |
| **Results** | Does not fit APA style. Incomplete, lack of supporting figures. | Weakly fits APA style. Some supporting figures. | Well organized, but lack of cohesion between written results and supporting figures. | Well organized, demonstrates clear cohesion between results and figures. |  |
| **Figures and Legends** | Unclear/ wrong format. | Unclear or incorrect format. | General with correct format. | Specific with correct format. |  |
| **Hypothesis** | Link to hypothesis not formed/not apparent from the discussion. | Link to hypothesis was not apparent but could be formed through the written discussion. | Link to hypothesis apparent in the discussion. | Link to hypothesis clearly stated. |  |
| **Discussion Review of Results** | No review is made from the evidence offered. | There is some review from the evidence offered. | A general review of the evidence is offered. | A detailed review of the evidence is offered. |  |
| **Citations of References from Introduction** | Citation from 1 source. | Citation from 2 sources. | Citation from 3 sources. | Citation from 4 sources. |  |
| **Limitations** | Limitations are not discussed. | Limitations are loosely discussed. | Limitations are listed and briefly discussed. | Limitations are listed, discussed in detail, and actions to address these limitations are made clear. |  |
| **Future Directions** | None listed. | Stated, but in an unorganized and nonlinear manner. | A general discussion of future directions is offered. | A detailed discussion of future directions is offered. |  |
| **Grammar** | There are > 8 grammatical/ spelling errors. | There are 6-7 grammatical/ spelling errors. | There are 4-5 grammatical/ spelling errors. | There are <3 grammatical/ spelling errors. |  |
| **Reference Sheet** | Information is not cited or is cited incorrectly. | Information is cited, but has errors. | Information is cited properly. | Information is cited properly and in APA format. |  |
| **Format** | Font, spacing, and APA format are incorrect. | Font, spacing, or APA format is correct. | Font and spacing, font and APA, or spacing and APA are correct. | Font, spacing, and APA format are correct. |  |
| **Pages** | The **discussion** is 1 page in length. | The **discussion** is 1.5 pages in length. | The **discussion** is at least 2 to 2.5 pages in length. | The **discussion** is at least 3 pages in length. |  |

**Appendix 3**

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| **Category** | **Rating** | **Score** |
|  | **0 - 3** |  |
| **Importance/ Hypothesis** | Introduce importance of general research area, central theories and empirical findings in this area, and select citations. Introduce the specific research question(s) you’ll focus on, state hypotheses |  |
| **Experimental Design/ Procedures and Methods** | Show your research design (including IVs and DVs). Clearly explain your methodology – how were IVs operationally defined (show examples if appropriate) – how were DVs operationalized (show examples of questionnaires, etc.) |  |
| **Results** | Clearly explain your methodology – how were IVs operationally defined (show examples if appropriate) – how were DVs operationalized (show examples of questionnaires, etc.) |  |
| **Discussion** | Clearly explain your findings and what they mean. Future directions and limitation also discussed. |  |
| **Response to Questions**  **/ Speaking Skills/ Presentation Length** | Demonstrates full knowledge of topic; explains and elaborates on all questions. Has natural delivery; modulates voice; articulate; projects enthusiasm, interest, and confidence; uses body language effectively; proper volume; steady rate; good posture and eye contact: length within +/- 2 minutes of goal. |  |