

**PS214: Research Methods and Statistics in Psychology I**  
**Fall 2019**  
**Department of Psychology, Colby College**

Lecture meetings: Mondays and Wednesdays, 11:00AM–12:15PM or 2:30–3:45PM,  
Davis 301

Lab meetings: Thursdays, 1:00–2:15PM (Lab A); Thursdays, 2:30–3:45PM (Lab B); or  
Fridays, 1:00–2:15 (Lab C), Davis 308

Course website: <http://moodle.colby.edu>

***Instructors***

Course Instructor: Prof. Erin Sheets

Office: Davis 336

Office Hours: Mondays 3:45–5:30, Tuesdays 2:00–3:30, Fridays 2:00–3:00

Email: [erin.sheets@colby.edu](mailto:erin.sheets@colby.edu)

Lab Instructor, Thursday Labs: Prof. Ross Rogers

Office: Davis 333

Office Hours: Wednesdays and Fridays 10:00–12:00

Email: [ross.rogers@colby.edu](mailto:ross.rogers@colby.edu)

Lab Instructor, Friday Lab: Prof. Jin Goh

Office: Davis 332

Office Hours: Tuesdays and Fridays 10:00–12:00

Email: [jin.goh@colby.edu](mailto:jin.goh@colby.edu)

***Course Assistants***

Lab Assistants: Thursdays 1:00 – Daniela Bencid-Santana, [dbenci21@colby.edu](mailto:dbenci21@colby.edu)

Thursdays 2:30 – Maggie Hall, [mhall20@colby.edu](mailto:mhall20@colby.edu)

Fridays 1:00 – Tamar Cimenian, [tecime20@colby.edu](mailto:tecime20@colby.edu)

Study Group Coordinator: Nora Kempainen, [njkemp21@colby.edu](mailto:njkemp21@colby.edu)

***Course Goals***

The overarching goal of PS214 is to train you as an informed producer and consumer of psychological science. At the conclusion of this semester, you should be able to:

- Manage and summarize data
- Conduct statistical analyses to draw conclusions from data
- Use SPSS, a statistical software package, to analyze data
- Understand the ethical principles and standards of the field
- Find and critically evaluate empirical research in psychology
- Ask a research question and design a scientific study to answer it
- Communicate psychological concepts and describe your research plan using the writing style of the American Psychological Association (APA)

## ***Textbooks***

The following textbooks are **required** for PS214 and PS215. Buy them now and hold onto them all year:

- Howell, D. C. (2016). *Fundamental statistics for the behavioral sciences* (9th ed.). Boston, MA: Cengage Learning.
- Green, S. B. & Salkind, N. J. (2014). *Using SPSS for Windows and Macintosh: Analyzing and understanding data* (7th ed.). Upper Saddle River, NJ: Prentice Hall.
  - Paperback or loose-leaf required, cannot use an e-book
- American Psychological Association, (2009). *Publication manual of the APA* (6th ed.). Washington, DC: Author.

The following textbook is optional:

- Cozby, P. C. (2012). *Methods in behavioral research* (11th ed.). New York, NY: McGraw-Hill.

Assigned readings from the optional textbook will be made available on the course Moodle page. To comply with copyright regulations, these readings will be available only one at a time, so if you do not purchase a copy of this book be sure to download each reading while it is available.

## ***Materials***

- You should have a calculator that you can use for in-class example problems, for problem sets, and on exams. It does not need to be fancy (i.e. does not have to be a graphing calculator); anything with a square-root button will work. Because you are expected to keep your phone out of sight during class, you will need a separate calculator.
- You should have a stapler; please staple everything that you hand in.
- We recommend bringing a USB flash drive to lab meetings, so that you can save a copy of your work.

## ***Evaluation***

### ***Exams***

To assess your understanding of the course material, there will be three exams over the course of the semester. Exam 2 will not be explicitly cumulative; it will focus on course material presented after Exam 1. However, many concepts tested on Exam 2 will build on concepts tested on Exam 1. The Final Exam will be cumulative.

For Exams 2 and 3, you will be allowed to reference one 3" x 5" index card (both sides). You must hand-write your notes yourself, and you must hand in the note card with the exam.

***Problem Sets and In-Class Assignments***

Because mastery of the course material requires practice, there will be regular assignments. Problem sets will be posted on the course Moodle page. In-class assignments may or may not be announced beforehand.

Problem sets are due by the ***beginning of class*** on the due date (typically Wednesdays); these may be turned in directly to me or to the box next to my office door (Davis 336). All assignments turned in complete and on time will receive full credit. You may submit one problem set late without penalty; any additional late assignments will not receive credit. The study group coordinator, Nora Kempainen, will lead weekly study sessions that focus on the problem sets. If you would like to join the study group *at any time in the semester*, drop by the study group or contact Nora by email.

***Lab Assignments***

Lab meetings will focus on the SPSS statistical software package and scientific writing skills. Labs will meet every week unless otherwise announced. You should bring the Green and Salkind textbook to each lab meeting. Weekly lab assignments will be posted on the Moodle page as your lab begins. You will turn in these assignments by email, either during your lab meeting or by the following Tuesday. Lab assignments turned in complete and on time will receive full credit. You may submit one lab assignment late without penalty; any additional late assignments will not receive credit.

***Research Proposal***

To develop your understanding of the research process, scientific writing, and APA style, you will write a paper that (a) identifies an important research question, (b) reviews previous research relevant to the question, and (c) proposes a new study designed to address the question. Further details about the research proposal will be provided in your lab section. Your lab instructor will provide feedback as you draft the research proposal and will grade your final research proposal. Submitting an incomplete draft or submitting a draft late may affect the final proposal grade.

***SPSS Quiz***

During the final lab meeting, you will take a quiz that assesses how well you can use SPSS to manage data and answer statistical questions. This quiz will be open-note and open-book. Unlike the regular lab assignments, your performance on the quiz will be graded from 0% to 100% correct.

### ***Course Grades***

Course component	Weight
Exam 1	20%
Exam 2	25%
Final Exam	30%
Research Proposal	15%
SPSS Quiz	10%
Problem sets, in-class, and lab assignments	See below

***Because research design and data analysis are fundamental aspects of psychological science, you must earn a final course grade of C- or better to continue as a psychology major.*** Your course grade will be determined by the weighted average of your grades from the three exams, the research proposal, and the SPSS quiz. This average must be at least 70% for you to continue as a psychology major. Furthermore, your final course grade may be slightly adjusted up or down on the basis of problem sets, in-class assignments, and lab assignments. This adjustment may lower your course grade from passing to failing, but it may not raise your grade from failing to passing.

### ***Course Schedule***

Class Date	Lecture Topics and Readings
Wed 09/04	Course Introduction No readings  <i>Part 1: Research Design and Working with Data</i>
Mon 9/09	Psychological Science Cozby, Chapter 1
Wed 9/11	Research Ethics Cozby, Chapter 3
Mon 9/16	Research Design, Part I Cozby, Chapter 4
Wed 9/18	Research Design, Part II Cozby, Chapter 8
Mon 9/23	Psychological Measurement Cozby, Chapter 5
Wed 9/25	Frequency Distributions Howell, sections 1.3-1.4, 3.1, 3.5
Mon 9/30	Central Tendency and Variability Howell, sections 4.1-4.4, 5.1, 5.3-5.5

Wed 10/02	<b>Exam 1</b>
	<i>Part 2: Testing Hypotheses about Means</i>
Mon 10/07	Normal Distributions Howell, sections 6.1-6.4
Wed 10/09	Sampling Distributions Howell, sections 2.3, 8.1-8.2, 12.1
Mon 10/14	Hypothesis Testing Howell, sections 8.3-8.8, 8.10-8.11
Wed 10/16	The z test Howell, section 12.2, 12.7
Mon 10/21	No lecture: Fall Break
Wed 10/23	The One-Sample <i>t</i> test Howell, section 12.3-12.6, 12.9, 12.11
Mon 10/28	The Matched-Samples <i>t</i> test Howell, section 13.1-13.4, 13.6
Wed 10/30	The Independent-Samples <i>t</i> test Howell, section 14.1, 14.4-14.6, 14.10
Mon 11/04	Topic and Readings TBA
Wed 11/06	<b>Exam 2</b>
	<i>Part 3: Correlation, Regression, and Categorical Data</i>
Mon 11/11	Correlation Howell, sections 9.1-9.4, 9.6-9.10, 9.12
Wed 11/13	Regression Howell, sections 10.1-10.6, 10.9-10.10
Mon 11/18	Multiple Regression Howell, sections 11.1-11.6, 11.9
Wed 11/20	No lecture: Professor at Association for Behavioral and Cognitive Therapies conference
Mon 11/25	Moderation PDF on Moodle – Howell (2013), section 15.14, pp. 551-556
Wed 11/27	No lecture: Thanksgiving
Mon 12/02	Categorical Data Howell, sections 19.1-19.2, 19.6, 19.8
Wed 12/04	Topic and Readings TBA
Sun 12/15 1:30PM	<b>Final Exam</b>

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### ***Weekly Lab Topics and Research Proposal Deadlines***

Lab Date	Lab Topics
Thur 09/05 or Fri 09/06	Lab 1: Data Collection and Entry
Thur 09/12 or Fri 09/13	Lab 2: Data Files and Proposal Topics
Thur 09/19 or Fri 09/20	Lab 3: Literature Searches
Thur 09/26 or Fri 09/27	Lab 4: Proposal Introduction Section
Thur 10/03 or Fri 10/04	Lab 5: Displaying and Describing Data
Thur 10/10 or Fri 10/11	Lab 6: Sampling Distributions
Sun, 10/13	<b>Due: Draft of Proposal Introduction Section</b>
Thur 10/17 or Fri 10/18	Lab 7: Proposal Method Section
Thur 10/24 or Fri 10/25	TBA
Thur 10/31 or Fri 11/01	Lab 8: <i>t</i> tests
Sun, 11/03	<b>Due: Draft of Proposal Method and Expected Results Sections</b>
Thur 11/07 or Fri 11/08	No lab meeting
Thur 11/14 or Fri 11/15	Lab 9: Correlation and Regression
Thur 11/21 or Fri 11/22	Lab 10: Multiple Regression
Sun 11/24	<b>Due: Final Research Proposal</b>
Thur 11/28 or Fri 11/29	No lab meeting
Thur 12/05 or Fri 12/06	<b>SPSS Quiz</b>

## ***Course Policies***

### ***Professionalism in the Classroom***

College offers continuous opportunities to develop and practice appropriate, professional behavior before you launch your career.

- Students are expected to attend all class meetings and are responsible for any work missed.
- It is expected that you will arrive on time for all class meetings. Arriving on time demonstrates respect for your professors and your peers.
- It is expected that you will have cell phones turned off and that you will not text or read texts during class.
- I strongly discourage you from bringing a computer to class. It is distracting for those around you and is often *extremely* distracting for you.
- It is expected that you will interact with fellow students, the course assistants, and the instructors in an open-minded, respectful, and supportive manner.
- Before emailing me, please check if your question can be answered by the syllabus or the course Moodle page.

### ***Academic Accommodations***

If you have a disability or learning difference for which an academic accommodation is recommended, please provide your supporting letter from the Office of Student Access and Disability Services as soon as possible. I would prefer to have a conversation with you about the accommodations, so I encourage you to bring the letter to office hours. Please keep in mind that accommodations are not retroactive and cannot be granted at the last minute.

## ***Department Policies***

### ***Delayed Exams/Papers***

This course follows the psychology department's policy on delayed exams and deadline extensions: Students should treat deadlines as firm. Only valid medical excuses, documented personal catastrophes (such as a death in the family), and religious observances will be accepted as reasons not to take an exam or turn in an assignment as scheduled. If you are, for legitimate reasons, unable to take an exam or turn in an assignment when it is scheduled, you should notify the professor *in advance* of the exam time or due date. Having a lot of work to do, several exams/papers in a few days, being generally unprepared, or having conflicting travel arrangements are not acceptable excuses to miss an exam or due date.

### ***Religious Observances***

Practitioners of a religious tradition requiring time apart from the demands of the normal work schedule on a particular day (or days) should contact their professors *in advance* to make arrangements for academic events that conflict with a religious observance.

***Incomplete Grades***

The mark of incomplete (I), indicating that a course was not completed, will be assigned only in the case of documented emergencies. The assignment of a mark of I is contingent on students making prior arrangements with their professor regarding completion of the course work by a certain date in accordance with policy specified in the *Colby College Catalogue*. Professors may consult with the department chair and/or the dean of students office (e.g., advising deans) prior to assigning an incomplete.

***College Policies******Academic Honesty & Consequences for Academic Dishonesty***

Honesty, integrity, and personal responsibility are cornerstones of a Colby education and provide the foundation for scholarly inquiry, intellectual discourse, and an open and welcoming campus community. These values are articulated in the Colby Affirmation and are central to this course. You are expected to demonstrate academic honesty in all aspects of this course. If you are clear about course expectations, give credit to those whose work you rely on, and submit your best work, you are highly unlikely to commit an act of academic dishonesty.

Academic dishonesty includes, but is not limited to: violating clearly stated rules for taking an exam or completing an assignment; plagiarism (including material from sources without a citation and quotation marks around any borrowed words); claiming another's work or a modification of another's work as one's own; buying or attempting to buy papers or projects for a course; fabricating information or citations; knowingly assisting others in acts of academic dishonesty; misrepresentations to faculty within the context of a course, on an academic assignment, or an academic record; and submitting the same work, including an essay that you wrote, in more than one course without the permission of the instructors for those courses.

Academic dishonesty is a serious offense against the college. Sanctions for academic dishonesty are assigned by an academic review board and may include failure on the assignment, failure in the course, or suspension or expulsion from the College for multiple academic dishonesty findings.

For more on recognizing and avoiding plagiarism, see the library guide: [libguides.colby.edu/avoidingplagiarism](http://libguides.colby.edu/avoidingplagiarism)

### ***Colby College Grading Guidelines***

#### **A**

Excellent work in meeting the goals of the course, in mastering the course material, in critical analysis, in written and oral communication, or in other forms of creative expression, within the context of the course expectations.

(The grade of A+ is awarded only in very rare instances when a student exceeds the highest reasonable expectations for undergraduates.)

#### **B**

Very Good to Good work in meeting the goals of the course, in mastering the course material, in critical analysis, in written and oral communication, or in other forms of creative expression, within the context of the course expectations.

#### **C**

Satisfactory work in meeting the goals of the course, in mastering the course material, in critical analysis, in written and oral communication, or in other forms of creative expression, within the context of the course expectations.

#### **D**

Minimally acceptable work in meeting the goals of the course, in mastering the course material, in critical analysis, in written and oral communication, or in other forms of creative expression, within the context of the course expectations.

(While the grade of D counts as a passing grade for any individual course, a student receiving D grades in multiple classes may be at risk of falling below the minimum 2.0 GPA required for graduation.)

#### **F**

Seriously deficient work that is not acceptable. No credit is awarded.