San José State University  
Department of Psychology  
PSYC 120-20, 21, 22  
Advanced Research Methods and Design (40887), Fall 2020

Instructor: Jill Citron, PhD  
Email: jill.citron@sjsu.edu  
Office Hours: Monday, 3:00 pm – 4:00 pm & Tuesday, 1:00 pm – 2:00 pm, and by appointment.  
Office Location: https://sjsu.zoom.us/j/96512319685  
Class Days/Time: Lecture - Tuesday & Thursday, 9:30 am – 10:15 am- Password: 649053  
Lab 21 - Tuesday 10:30 am – 12:30 pm- Password: 229392  
Lab 22 – Thursday 10:30 am – 12:30 pm- Password: 859753  
Classroom Location: https://sjsu.zoom.us/j/91869167087?pwd=RG0xalN5ZHdGUXZxVHNvVHFIUmpFZz09  
Lab 21: https://sjsu.zoom.us/l/93064645448?pwd=dTBRVDErTHILWWRPVXpPTnFMeWxBUT09  
Lab 22: https://sjsu.zoom.us/j/93960605739?pwd=bGgzNkFpRjZ4V0RmdUtVaTVSQW45QT09  
Prerequisites: PSYC 1, PSYC 100W and STAT 95

CANVAS and MYSJSU Messaging  
Copies of some course materials such as the syllabus, major assignment handouts, etc. may be found on Canvas. Messages to the class may be sent through Canvas or MYSJSU.

Course Description  
Descriptive, correlational, quasi-experimental, and experimental approaches: design, methodology, and analysis. Experience designing, conducting, analyzing, and presenting (verbal and written) research findings. Topics will include; hypothesis testing, validity, reliability, scales of measurement, questionnaire development, power, statistical significance, and effect size.

Prerequisite: lower division GE complete; PSYC 1; STAT 95; PSYC 100W with 'C' or better (or department approval); Upper Division; Psychology or Behavioral Science Major

PSYC 120-20/21/22 – Fall 2020
Communication with Instructor
Use email, office hours, or class time to ask questions. I respond to email M-F 9:00-5:00. Please allow 1-2 days for a response. When emailing, include a relevant title and our course number (120-10 and lab section number if relevant). If you have extensive questions about an assignment or class work, drop into office hours.

Course Goals and Student Learning Outcomes (CLOs)
Upon successful completion of this course, Psych 120 students will be able to:

CLO 1: Understand how psychology is a science in which people seek to gain knowledge about behavior and mental processes by running experiments and other types of studies. Assessment for this CLO will be in class activities, lectures, preparation assignment, Quiz #1, and Final Exam.

CLO 2: Understand how the scientific method is used in psychological research. Assessment for this CLO will be assessed by Quiz #1, lectures, and participation in the research process.

CLO 3: Understand the differences between the different types of studies and different types of research designs used in psychological research. Assessment for this CLO will be participation assignments, Quiz #2 and Final Exam.

CLO 4: Understand why different research methods are needed for different research situations. Assessment of this CLO will be conducted with preparation assignments, Quiz #2, and Final Exam.

CLO 5: Understand and know the advantages and disadvantages of specific research methods. Assessment of this CLO will be conducted with preparation assignments and Quiz #2.

CLO 6: Understand and know the vocabulary associated with psychological research methods. Assessment of this CLO will be conducted with preparation assignments.

CLO 7: Understand how to treat research participants ethically and why the ethical treatment of participants is important and necessary. Assessment of this CLO will be conducted with preparation assignments and Quiz #1.

CLO 8: Understand the factors that can affect the ability of a research study to provide a sound answer to a researcher’s question and how to reduce or eliminate these factors. This CLO will be assessed by preparation assignments, quiz #2 and Final Exam.
CLO 9: Understand why statistics are important and needed in psychological research. Assessment of this CLO will be conducted with preparation assignments and Quiz #3.

CLO 10: Understand the meaning of statistical significance. Assessment of this CLO will be conducted with participation assignments, Quiz #3, and the Final Exam.

CLO 11: Conduct statistical analyses and interpret the results. This CLO will be assessed by Quiz #3, the research report, and Final Exam.

CLO 12: Understand the limitations of the results of studies and draw appropriate conclusions from the results of research studies. This CLO will be assessed by Quiz #3, the research report, and Final Exam.

CLO 13: Carry out a research study from beginning to end (including writing a research report). This CLO will be assessed by the research report and research presentation.

Program Learning Outcomes (PLOs)

Upon successful completion of the psychology major requirements, students will be able to:

PLO1: Knowledge Base of Psychology- Students will be able to identify, describe, and communicate the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology.

PLO2: Research Methods in Psychology- Design, implement, and communicate basic research methods in psychology, including research design, data analysis, and interpretations.

PLO3: Critical Thinking Skills in Psychology- Students will be able to use critical and creative thinking, skeptical inquiry, and a scientific approach to address issues related to behavior and mental processes.

PLO4: Application of Psychology- Students will be able to apply psychological principles to individual, interpersonal, group, and societal issues.

PLO5: Values in Psychology- Students will value empirical evidence, tolerate ambiguity, act ethically, and recognize their role and responsibility as a member of society.
The learning goals for this course fall into four categories that follow the construction of a research report. Learning outcomes for the first part of the course describes how the psychological sciences seek to gain knowledge about behavior and mental processes by running experiments and other types of studies. The second category will cover how scientific methods are used in psychological research. The third category will cover why statistics are important and needed in psychological research, choosing the appropriate statistical analyses, and interpret the results. The final goal is to apply our learning by carrying out a planned research experiment with a full research report and presentation.

**Canvas & Zoom**

During this time of the COVID-19 pandemic, our course will be conducted online. Canvas will serve as the central hub for class. Information about assignments, readings, activities can all be found on Canvas. Our class meetings and office hours will happen over Zoom. The links for Zoom events can be found on Canvas.

**All Zoom sessions will be recorded.** In the Spring 2020 Student Success Survey, many students reported that having recordings of class sessions was helpful for studying or catching up on. Recordings are only available to students of this class.

**It is strongly recommended** that students use the Chrome Web Browser when using Canvas and Zoom. Using Chrome will decrease the number of glitches and errors you experience, as Canvas and Zoom were developed using the Chrome platform. In addition, update your Canvas setting to receive messages from this course, as announcements are sent out on a regular basis.

**Accessing Course Canvas site**

To access the Canvas site go to [http://www.sjsu.edu/at/ec/canvas/](http://www.sjsu.edu/at/ec/canvas/) and click on “Log in to Canvas”

- **Username** = SJSU 9-digit ID
- **Password** = your current SJSUOne password

For additional information or help with logging in:

- **Canvas Student Tutorial**: [http://www.sjsu.edu/at/ec/canvas/](http://www.sjsu.edu/at/ec/canvas/)

**Note:** clearing your browsing history may help if you have trouble logging into the site.

**Required Textbook**

Strongly Recommended


Library Liaison

The SJSU library has a librarian who specializes in psychology (and other social sciences), and this librarian can serve as a very valuable resource for helping you to develop research ideas and locating appropriate research materials. The library also has an abundance of resources for doing psychology research: Christa Bailey, 408-808-2422, christa.bailey@sjsu.edu, http://libguides.sjsu.edu/psychology

Classroom Protocol

Students are expected to maintain a level of professional and courteous behavior at all times. You are required to put your cell phone and other distractions away before the beginning of class. I expect you to be respectful of your fellow classmates and to receive the same respect in return. This includes introducing distractions and unrelated chat posts during class. Students not abiding by these policies will be asked to leave the class meeting.

Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester’s catalog, https://catalog.sjsu.edu/, policy section. The Late Drop Policy is available at https://www.sjsu.edu/aars/policies/latedrops/policy/. Please be aware that there are changes due to COVID-19 SIP. Information about the latest changes and new is available at the Advising Hub at https://www.sjsu.edu/advising/

Attendance

Students are expected to attend all meetings for the courses in which they are enrolled as they are responsible for material discussed therein, and active participation is frequently essential to ensure maximum benefit to all class members.

According to University Policy F15-12. “Students are expected to attend all meetings for the courses in which they are enrolled as they are responsible for material discussed therein and active participation is frequently essential to ensure maximum benefit to all class members. In some cases, attendance is fundamental to course objectives; for example, students may be required to interact with others in the class. Attendance is the responsibility of the student. Participation may be used as a criterion for grading when the parameters and their evaluation are clearly defined in the course syllabus and the percentage of the overall grade is stated.”

Assignments and Grading Policy

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in University Policy S12-3 at http://www.sjsu.edu/senate/docs/S12-3.pdf.
Expect that your grades in Canvas will continue to change throughout the semester. Do not contact me at the end of the semester asking if I will round up your grade. I want all of my students to succeed and will always round grades up (not down) when it is possible.

Classes may include lectures, in-class activities, question-and-answer periods, demonstrations, and films. Attendance is required and critical for success in this course. If you miss a class, you are
responsible for the information from that class. It is vital that you complete all scheduled readings and assignments before each class.

The primary methods of assessment for this course will be a research proposal, completed research report, a class presentation, three quizzes, and final exam. The point value for each of the assignments can be found in the grading policy. Information about dates are included in the Course Calendar. Please note that the course calendar is tentative course calendar and “subject to change with fair notice” including assignment due dates, exam dates, date of final exam; you might want to include as well.

The research project requires students to conduct independent research, including data collection. It should be noted that the Academic Vice President in a memorandum dated October 25, 1977 cites a university policy that states that there shall be an appropriate final examination or evaluation at the officially scheduled time in every course, unless specifically exempted by the college dean who has curricular responsibility for the course.

**Laboratory**

Lab attendance is mandatory and critical to successful completion of this course. Access to a separate Zoom meeting available during your scheduled class time. It is strongly recommended that you obtain a copy of SPSS and the Microsoft suite through SJSU. The software is free and having access to this software will help you meet research project deadlines.

Students will participate in a research project conducted over the duration of the course. The project will be done in collaboration with research group members. Research groups will be created and meet during lab time. Research groups will be connected in CANVAS. Please note that group members must be registered for the same lab session.

Each laboratory assignment will prepare you to successfully complete your research study and report write-up. While some of the lab work is not formally graded, failure to participate in each step will likely interfere with your ability to complete the research project to the best of your ability. Team participation in lab work is required. If you do not contribute to the project in a substantive way, you are taking advantage of others (hanger-on, cadger, freeloader, moocher, lounge lizard, etc.) Participation will be assessed by group evaluations at the end of the semester. Research group evaluations may influence your course grade up to a full letter grade.

*If you know that you will not be able to attend your scheduled laboratory section, this is not the semester for you to take this class.*

As per University policy F69-24 found at [http://www.sjsu.edu/senate/docs/F69-24.pdf](http://www.sjsu.edu/senate/docs/F69-24.pdf) states that “Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because active participation is frequently essential to insure maximum benefit for all members of the class. Attendance per se shall not be used as a criterion for grading.”
Testing
Three quizzes and one cumulative final exam will be given during the semester. Quizzes will consist of multiple-choice questions and may include short answer questions. The final exams will assess your ability to apply the concepts and content you have learned during the semester. *Cheating on exams will not be tolerated.*
- The three quizzes will be taken outside of regular class time, opening on Thursday and closing on Sunday, 10/11, 11/08, and 11/22.
- The final exam will Wednesday, December 9th, 7:15 am - 9:30 am.

Preparation Assignments
There will be 5 assignments posted on Canvas. Each assignment will include a short answer question/s based on important course content. It is an opportunity to apply material learned in class.

The assignments will be available via Canvas on Sunday and due Saturday of the assigned week. **Warning:** Do not submit assignments to Canvas later than 9:00 pm of any due date. You will not receive any consideration for submission issues if your **documented submission attempt** is later than 9 pm on the due date.

Note: Each preparation assignment is an independent assignment. Although students may discuss their responses, assignments are to be completed individually in the student’s own language. Students must cite sources according to APA style. **You must submit your written work through Turn-It-In.**

Research Project
Your research team will develop an original research hypothesis guided by parameters set by the instructor. Project work will take place during lab, lecture, and outside of class time.

Each research group will submit a full research proposal, collect and analyze their group data, write a professional level APA-style research report and give a quality presentation of your research findings. The paper will be a **minimum of 12 pages** in length (not including references, double-spaced, typed, 12-point font) and include a minimum of **20+ peer-reviewed, scholarly references.** Each group will need to decide how to divide the writing of the proposal, recruitment, and data collection (along with deciding how to divide all of the other responsibilities involved in completing the project). The research proposal is a shared project.

Your final report will include shared group work and individual work. The title page, abstract, and discussion of your final paper submission must be your **own independent work.**

Plagiarism of any kind will not be tolerated. Please refer to the section on Academic Integrity for information about the consequences of plagiarism. You must cite all of the sources that your information comes from and also use quotations when you are directly quoting information from a source.

Each student is responsible for submitting their own final report by Canvas upload, Monday, November 30th. Late reports will not be accepted.

Online Exams – Testing Environment.
- No earbuds, headphones, or headsets
- No other browser can be opened besides Canvas.
- A workplace clear of clutter (cell phone, reference materials, tablets, smart watches, monitors, gaming consoles, etc.
- Well-lit environment. Can see the students’ eyes and their face. Avoid using backlight from a window or other light source opposite the camera.
Research Group Presentation
Your research team will present a short slideshow outlining your project and findings. Clear instructions are provided on Canvas. Each student is responsible for submitting their own group presentation slideshow file by, Monday, December 7th. Late reports will not be accepted.

Final Group Evaluation
Students will confidentially evaluate each of their group member for participation, cooperation, collaboration, work quality, and reflection. Students receiving low marks from their peers on this evaluation may have their final project grade reduced by a full letter grade. The group evaluation survey will be completed on the day of the final exam. Peer evaluations are considered part of the final project grade. Not completing peer evaluations will result in lost points.

Definition of a Credit Hour
Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of forty-five hours over the length of the course. As an example, the expectation of work for a 3-credit course is 150 minutes of direct faculty instruction and six-hours of out-of-class student work each week.

Please review the following sources and policies, as well:
- Office of Graduate and Undergraduate Programs’ Syllabus Information web page at http://www.sjsu.edu/gup/syllabusinfo/

Make-up Exams and Late Assignments
There will be no late make-up exams or late work accepted (with the exception of a written medical excuse). Please check your schedule to ensure that you have no conflicts with due dates. Again, no extensions for assignment will be given except in cases documented emergencies or serious illness.

Academic integrity
Academic integrity is essential to the mission of San Jose State University. As such, students are expected to produce their own work (except when collaboration is expressly permitted by the course instructor) without the use of any outside resources. Students are not permitted to use old tests, quizzes when preparing for exams, nor may they consult with students who have already taken the exam. When practiced, academic integrity ensures that all students are fairly graded. Violations to the Academic Integrity Policy undermine the educational process and will not be tolerated. It also demonstrates a lack of respect for oneself, fellow students, the course instructor, and can ruin the university’s reputation and the value of the degrees it offers. The Student Conduct and Ethical Development is available at https://www.sjsu.edu/studentconduct/.

We will be using Proctorio to ensure academic integrity during course testing.
We will be using Turn-It-In to ensure academic integrity for written assignments.
GRADING INFORMATION AND MAJOR ASSIGNMENTS:

Your final grade will be based on the number of points that you earn during the semester. The following table provides a breakdown of the points that you can earn during the semester.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>How Many?</th>
<th>Points Per Assignment</th>
<th>Total Points</th>
<th>Approximate % of Final Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>3</td>
<td>20</td>
<td>60</td>
<td>20%</td>
</tr>
<tr>
<td>Preparation Assignments</td>
<td>5</td>
<td>10</td>
<td>50</td>
<td>17%</td>
</tr>
<tr>
<td>Laboratory Exercises</td>
<td>10</td>
<td>5</td>
<td>50</td>
<td>17%</td>
</tr>
<tr>
<td>Research Presentation</td>
<td>1</td>
<td>10</td>
<td>10</td>
<td>3%</td>
</tr>
<tr>
<td>Research Proposal</td>
<td>1</td>
<td>30</td>
<td>30</td>
<td>10%</td>
</tr>
<tr>
<td>Research Paper</td>
<td>1</td>
<td>70</td>
<td>70</td>
<td>23%</td>
</tr>
<tr>
<td>Cumulative Final Exam</td>
<td>1</td>
<td>30</td>
<td>30</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>300</strong></td>
<td><strong>300</strong></td>
<td><strong>300</strong></td>
<td><strong>100%</strong></td>
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</table>

**Grading Scale:**

<table>
<thead>
<tr>
<th>Percent</th>
<th>Grade</th>
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<tbody>
<tr>
<td>100 - 94</td>
<td>A</td>
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<tr>
<td>93 - 90</td>
<td>A-</td>
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<tr>
<td>89 - 87</td>
<td>B+</td>
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<tr>
<td>86 - 84</td>
<td>B</td>
</tr>
<tr>
<td>83 - 80</td>
<td>B-</td>
</tr>
<tr>
<td>79 - 77</td>
<td>C+</td>
</tr>
<tr>
<td>76 - 74</td>
<td>C</td>
</tr>
<tr>
<td>73 - 70</td>
<td>C-</td>
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<tr>
<td>69 - 67</td>
<td>D+</td>
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<tr>
<td>66 - 64</td>
<td>D</td>
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<tr>
<td>63 - 60</td>
<td>D-</td>
</tr>
<tr>
<td>59 or below</td>
<td>F</td>
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</tbody>
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**University Policies:** Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs’ Syllabus Information web page at http://www.sjsu.edu/gup/syllabusinfo/.
Student Resources

Student Computer Resources – Check for different ways to access these services during the COVID-19 SIP. Computer labs and other technological resources for students can be found in various places on campus such as:

- For information regarding the loan of laptops, tablets, and other computer materials; https://library.sjsu.edu/student-computing-services/student-computing-services
- For IT Support visit - https://www.sjsu.edu/it/support/service-desk/index.php
- For a list of software available to all SJSU students visit - https://library.sjsu.edu/student-computing-services/software-available

ACCESS Success Center
The Academic Counseling Center for Excellence in Social Sciences (ACCESS) Success Center “provides general education advising for undergraduate students majoring or intending to major in any of the departments in The College of Social Sciences.” Visit their webpage for more information and to schedule an online appointment, https://www.sjsu.edu/education/studentsuccesscenter/advising-and-tutoring.php.

Accessible Education Center (AEC)
Ability Redefined - Please reach out to me as soon as possible in the beginning of the semester, for any support. “If you need course adaptations or accommodations because of a disability, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities requesting accommodations must register with AEC to establish a record of their disability.” Academic Senate Policy F06-2 [pdf]

SJSU Peer Connections
Peer Connections website “offers free mentoring, tutoring, and supplemental instruction services for students at SJSU. Peer Educators are students just like you; they understand the triumphs and challenges of being a student at San José State University.” If you have questions about services, contact the Peer Connections at 408-924-2587 or email at peerconnections@sjsu.edu, or visit their webpage for more information, https://peerconnections.sjsu.edu/programs/tutoring/index.html

SJSU Writing Center— Check for different ways to access these services during the COVID-19 SIP.
The SJSU Writing Center “offers a variety of resources to help students become better writers, and all of our services are free for SJSU students.” If you have questions about services, call the Writing Center at 408.924.2308 or email us at writingcenter@sjsu.edu, or visit their webpage to make an online appointment https://www.sjsu.edu/writingcenter/

SJSU Counseling and Psychological Services (CAPS)
SJSU Counseling and Psychological Services invites “all students to come into Counseling and Psychological Services, located at the Student Wellness Center, room 300B, for any support. If you have questions about services, contact CAPS at (408) 924-5910 or email at counseling.services@sjsu.edu or visit their webpage, https://www.sjsu.edu/counseling/ Currently offered is a Therapist Assisted Online https://www.sjsu.edu/counseling/students/TAO/index.html “Therapy anytime, anywhere for anxiety and depression on your mobile device”.
Major Assignments

Below is a list of important course events. Clear instructions for each assignment are posted on Canvas. This list will help you in preparing for major assignments. Remember that there may be modifications in the schedule over the semester. It is your responsibility to keep track of these changes.

Quiz 1
Date: Thursday, 10/08 (open) – Sunday, 10/11 (close)
Chapters: 1 - 6
Outcomes: Demonstrate a clear understanding of the need for scientific method and psychological science. Explain the basis of the IRB process and how to identify scientific fraud. Alternatives to experimentation, survey, formulating a hypothesis

Quiz 2
Date: Thursday, 11/05 (open) – Sunday, 11/08 (close)
Chapters: 7-12
Outcomes: Clear understanding of the basics of experimentation, understanding variables, reliability and validity. Controlling extraneous variables. Study designs: between-subjects, between-subject factorial designs, within-subject designs, and small N – within-subject.

Quiz 3
Date: Thursday, 11/19 (open) – Sunday 11/22 (close)
Chapters: 13 - 16
Outcomes: Demonstrate a clear understanding of the need for hypothesis testing, how to determine significance levels, determine appropriate statistical tests and interpret statistical findings. Interpreting non-significant events

Research Proposal
Date: Monday, 10/12 by the end of the day
Outcomes: Submit a polished research proposal. Present your hypothesis, why it is relevant, logical support for your experiment presented in a literature review. Included will be your complete methodology, plan for statistical analysis, and materials that will be used in your experiment.

Research Report
Date: Monday, 11/30 by the end of the day
Outcomes: Submit a polished research report in APA style. The completed report will present the statistical analysis and interpretation on the data you have collected.

Final Exam
Date: Wednesday, December 9th 7:15 am – 9:30 am
Lectures: All
Chapters: All

PSYC 120-20/21/22, Fall 2020
# Psychology 120: Advanced Research Methods and Design

## Sections: 20/21/22, Fall Semester, 2020

### Course Schedule

*This schedule is subject to change with fair notice.*

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Lab &amp; Class Activity</th>
<th>Due Dates</th>
</tr>
</thead>
</table>
| Th –   | **Course Introduction and Expectations** | • Student Information Survey  
• Review of syllabus  
• Course Requirements | **Syllabus Quiz, Sunday 08/23**                                 |
| 08/20  | **PART ONE - FOUNDATIONS**          | **Lab Activity #1**  
Research Group Selection Process- | Partcipate in Mandatory Lab Assignment #1 – Choosing Research Groups |
| 1      | **Scientific Method - Chapter 1**   | Students will randomly meet in groups of three  
These meetings will be used to share ideas research  
ideas and to think about who you would like to form a  
group with. | Complete survey about group member selection and schedule availability.  
DUE: by the end of your lab day. |
<p>| Tue 08/25 | <strong>The Need for Scientific Methodology</strong> | Once the class exercise has been completed, each student will fill out a lab survey, including the names of the four individuals that you would like to work with. |                                             |
| Thu 08/27 | <strong>Logic of the Scientific Methods</strong>  | Group assignment will be sent out by email. Group web page will be created for you and there will be a simple assignment to confirm your access. |                                             |
|        | <strong>Basic Tools of Psychological Research</strong> |                                                                 |                                             |
|        | <strong>Scientific Explanation in Psychological Research</strong> |                                                                 |                                             |</p>
<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Lab Activity</th>
<th>Due Dates</th>
</tr>
</thead>
</table>
| 2    | **Research Ethics** – Chapter 2  
      Tue 09/01  
      • History of Research Ethics  
      • Institutional Review Board (IRB)  
      Thu 09/03  
      • Treatment of Animals in Research  
      • Scientific Fraud  
     | Lab meetings Week-2-6 will be used to complete the following activities:  
     | **Lab Activity #2**  
     | Identify a Research Topic  
     | Conduct Literature Review  
     | Preparation Activity #1, 09/06  
     | Lab Activity #2 due at the end of your lab day. |
| 3    | **Alternatives to Experimentation: Nonexperimental Designs** – Chapter 3I  
      Tue 09/08  
      • Study techniques that do not manipulate antecedent conditions.  
      • Conducting new research using previously collected data  
      Thu 09/10  
      • Learn the techniques employed in observational research.  
      • Learn the basics of qualitative research.  
     | **Lab Activity #3**  
     | Identify a Research Topic  
     | Conduct Literature  
     | Develop a statement of hypothesis  
     | Preparation Activity #2, 09/13  
     | Lab Activity #3 due at the end of your lab day. |
| 5    | **Alternatives to Experimentation: Surveys and Interviews**– Chapter 4  
      Tue 09/15  
      • Survey and interview research  
      • Developing questionnaires and survey questions.  
      Thu 09/17  
      • Using standardized tests  
      • How to conduct an interview  
      • Pros and cons of different sampling techniques.  
     | **Lab Activity #4**  
     | Conduct Literature Review  
     | Develop statement of hypothesis  
     | Identify Variables for Experiment and  
      Several Options for how these Variables may be Used in your Study  
<pre><code> | Lab Activity #4 due at the end of your lab day. |
</code></pre>
<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Lab Activity</th>
<th>Due Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Alternatives to Experimentation: Correlational and Quasi-Experimental Designs – Chapter 5&lt;br&gt;Tue 09/22  &lt;ul&gt;&lt;li&gt;Advanced techniques that do not manipulate antecedent conditions&lt;/li&gt;&lt;li&gt;Correlations, other correlational-based methods, and quasi-experimental designs&lt;/li&gt;&lt;/ul&gt;&lt;br&gt;Thu 09/24  &lt;ul&gt;&lt;li&gt;Learn how causal models can be constructed from correlation-based designs&lt;/li&gt;&lt;li&gt;Understand how the results of these nonexperimental techniques may (and may not) be interpreted.&lt;/li&gt;&lt;/ul&gt;</td>
<td>Lab Activity #5&lt;br&gt;Conduct Literature Review&lt;br&gt;Develop Statement of Hypothesis&lt;br&gt;Identify Variables for Experiment and Several Options for how these Variables may be used in your Study.&lt;br&gt;Choose Experimental Design and Method for Collecting Data.</td>
<td>Lab Activity #5 due at the end of your lab day.</td>
</tr>
<tr>
<td>7</td>
<td>Tue 09/29 NO CLASS&lt;br&gt;Formulating the Hypothesis – Chapter 6&lt;br&gt;Thu 10/01  &lt;ul&gt;&lt;li&gt;Learn the differences between nonexperimental and experimental hypotheses&lt;/li&gt;&lt;li&gt;Understand the components of a good experimental hypothesis.&lt;/li&gt;&lt;/ul&gt;</td>
<td>Continue to work on research proposal Lab Activity #6</td>
<td>Preparation Activity #3, 10/04&lt;br&gt;Lab Activity #6, due at the end of your lab day.</td>
</tr>
<tr>
<td>8</td>
<td>Formulating the Hypothesis – Chapter 6&lt;br&gt;Tue 10/06  &lt;ul&gt;&lt;li&gt;Explore where hypotheses come from&lt;/li&gt;&lt;li&gt;Learn how to conduct a literature search&lt;/li&gt;&lt;li&gt;Learn the differences between nonexperimental and experimental hypotheses&lt;/li&gt;&lt;/ul&gt;</td>
<td>Continue to work on research proposal Lab Activity #7</td>
<td>Preparation Activity #4, 10/11&lt;br&gt;Lab Activity #7, due at the end of your lab day&lt;br&gt;QUIZ #1 10/08 (open) – 10/11 (close)</td>
</tr>
</tbody>
</table>
## PART TWO - METHODS

### 9

**The Basics of Experimentation** – Chapter 7

- Thu 10/08
  - Learn the differences between nonexperimental and experimental hypotheses
  - Understand the components of a good experimental hypothesis

- Tue 10/13
  - Understand the importance of reliability and validity
  - Learn about extraneous variables and confounding

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**Solving Problems: Controlling Extraneous Variables** - Chapter 8

- Thu 10/15
  - Learn to control for aspects of the physical environment
  - Understand demand characteristics & experimenter bias and how to control for their effects

- Tue 10/20
  - Learn how an experimenter’s personality can influence experiments
  - Learn how volunteers differ from non-volunteers
  - Understand how to control for special problems created by the experimental context

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### Lab Activity #8

**Research Proposal Meetings**

Meetings will take place during your laboratory section. Sign up for an appointment time located in the Research Proposal Meetings Module.

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### 10

**DO NOT START COLLECTING DATA UNTIL YOUR RESEARCH PROPOSAL HAS BEEN APPROVED!**

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**Preparation Activity #5, 10/18**

**Lab Activity #8, due at the end of your lab day**

**Research Proposal completed and submitted by 10/12**
<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Lab Activity</th>
<th>Due Dates</th>
</tr>
</thead>
</table>
| 11   | **Basic Between-Subjects Designs** – Chapter 9 Thu 10/22  
- Subject assignment  
- Simple two-group designs and controlling for confounding  
- Conduct experiments with more than two groups.  
**Between-Subjects Factorial Designs** – Chapter 10 Tue 10/27  
- Testing more than one independent variable  
- Learn about main effects and interactions between variable | Start collecting data! | |
| 12   | **Within-Subjects Designs** – Chapter 11 Thu 10/29  
- Learn designs in with subjects participate in more than one experimental condition  
- Learn how to control for problems specific to these designs.  
**Within-Subjects Designs: Small N** – Chapter 12 Tue 11/03 – ELECTION DAY  
- Understand the rationale for conducting small N experiments  
- Learn ABA family of reversal design  
- Learn other methods used in small N research | Build Database Enter Data | QUIZ #2 11/05 (open) – 11/08 (close)  
Lab Activity #9 due on at the end of your lab day. |
<p>| <strong>PART THREE – RESULTS:</strong> COPING WITH DATA | ** | ** | ** |</p>
<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Lab Activity</th>
<th>Due Dates</th>
</tr>
</thead>
</table>
| 13   | **Why We Need Statistics** - Chapter 13 Thu 11/05  
  - Learn how hypotheses are tested in experiments  
  - Understand the meaning of significance levels | Lab Activity #10  
 Prepare results section. | Lab Activity #10, due at the end of your lab day |
|      | **Analyzing Results** – Chapter 14 Tue 11/10  
  - Learn how to select the appropriate statistical tests.  
  - Understand the concept of variance in an experiment | **PART FOUR - DISCUSSION** | **PART FOUR - DISCUSSION** |
| 14   | **Writing the Research Report** – Chapter 16  
  - Internal validity  
  - Increasing external validity  
  - Understand the cause of non-significant findings. | Open Lab for student meetings with instructor. | **Writing the Research Report** – Chapter 16  
  - Internal validity  
  - Increasing external validity  
  - Understand the cause of non-significant findings. |
<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<th>Due Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Tue 11/17 - Group Presentation</td>
<td>Open Lab for student meetings with instructor.</td>
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<tr>
<td></td>
<td>Thu 11/19 — Group Presentation</td>
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<tr>
<td>16</td>
<td>Tue 11/24 - Group Presentation</td>
<td>Open Lab for student meetings with instructor.</td>
<td><strong>FINAL DAY FOR SUBMISSION</strong>&lt;br&gt;Monday, November 30&lt;sup&gt;th&lt;/sup&gt;&lt;br&gt;Submit your final research report.&lt;br&gt;Report must be submitted individually.</td>
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<td></td>
<td>Thu 11/26 – <strong>No Class</strong>&lt;br&gt;Thanksgiving Day</td>
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<tr>
<td>17</td>
<td>Tue 12/01 – Group Presentation</td>
<td>Open Lab for student meetings with instructor.</td>
<td><strong>FINAL DAY FOR SUBMISSION</strong>&lt;br&gt;Thursday, December 3&lt;sup&gt;rd&lt;/sup&gt;&lt;br&gt;Submit your presentation slide show.&lt;br&gt;Slide shows must be submitted individually.</td>
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<tr>
<td></td>
<td>Thu 12/03 – Group Presentation</td>
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<tr>
<td><strong>Wed 12/09</strong>&lt;br&gt;Final Exam 7:15 am – 9:30 am</td>
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