San José State University
Department of Psychology
Method and Design for Applied Research
Psyc 291, Section 01
Spring 2012

Instructor:  Sean Laraway, PhD

Office Location:  DMH 311

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Email:  sean.laraway@sjsu.edu

Office Hours:  M, 12:00 p.m. – 3:00 pm; or by appointment
Online office hours: M-Th 12-5 p.m.

Class Days/Time:  W, 12:00 – 2:45 p.m.

Classroom:  DMH 308

Prerequisites:  Advanced Research Methods and Design (e.g., Psyc 120);
Elementary and Intermediate Statistics (e.g., Stat 95 & 115)
Or equivalents

Course Description
The goal of this course is to introduce you to the theory and practice of applied research. Topics to be covered include: (a) assessment of behavior; (b) validity of research studies (i.e., internal, external, construct, and statistical conclusion, social); (c) research designs (e.g., randomized-group, single-case); (d) graphical and statistical analysis of data, including hypothesis tests, confidence intervals, and effect size measures; (e) ethical issues in applied research; (f) communication of research findings; (g) reliability; (h) causation; (i) critical thinking in evaluating research findings and causal claims; and (j) the principles of applied behavior analysis (ABA) and behavioral self-management.

Course Web Page
We will use Desire 2 Learn (D2L) for posting course grades. You will automatically be given access to D2L upon your successful enrollment in the course.

https://sjsu.desire2learn.com/

We will use Piazza for course announcements, postings, questions, and discussions. You will receive an invitation to enroll in Piazza upon your successful enrollment in the course. Please follow the instructions to gain access to Piazza. Use Piazza to ask questions about the course structure, assignments, and material. Do not use email for these types of inquiries. Use email only for personal questions, such as those involving your grade, missing classes, etc.

www.piazza.com
Course Learning Outcomes

The purpose of this course is to introduce clinical graduate students to the fundamental quantitative research methods and designs used in applied psychology, particularly single-case designs. Students completing this course are expected to demonstrate the following learning outcomes at a masters-level of sophistication:

1. The mastery of the concepts and vocabulary of single-case designs and their application to solving social/behavioral problems in various settings
2. An understanding of behavioral assessment methods
3. The ability to evaluate critically research reported in scholarly journals and the mass media
4. The ability to develop, design, and propose valid and ethical applied research
5. An understanding of common descriptive and inferential statistical methods used in psychological research
6. An understanding of ethical standards relevant to psychological research
7. An understanding of the principles of applied behavior analysis (ABA)
8. An understanding of causation and the critical evaluation of causal claims
9. An understanding of the concepts of reliability and validity (social, internal, external, construct, and statistical conclusion)
10. An understanding of the techniques and practice of behavioral self-management

Program Learning Outcomes (PLO)

Upon successful completion of the psychology major requirements…

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 – Students will be able to 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.

Textbook/Readings

2. Research articles and/or chapters will be made available electronically (PDF format) via Piazza.
Other equipment / material requirements

1. Scientific calculator (must have square root and exponent buttons)
2. Computer, printer, internet, and library access
3. Scantron (882) forms
4. Access to relevant software (Excel, PowerPoint)

Classroom Protocol

Classes
Classes will comprise lectures, in-class activities, student presentations, and discussions. Attendance is required and is critical for success in this course. If you miss a class, you are responsible for getting the information covered. It is vital that you complete all scheduled readings and assignments before each class. Always bring your text and calculator to class. Do not talk, read, text message, or eat during class. Please arrive to class on time.

Etiquette
Students are expected to attend class and maintain a level of professional and courteous behavior in the classroom. Students disrupting the classroom will be asked to leave.

Cell phones and other electronic devices
Please be certain to turn off or put in silent mode (not vibrate mode as that is still audible and is distracting) all cell phones, pagers, and any other devices that produce distraction prior to entering the classroom.

Late arrivals
If you must arrive late or leave early, please do so quietly and with a minimum of distraction.

I expect you to come to class prepared
“Prepared” means you have completed the readings and any assignment before class starts, and written down any questions you had from any assignments.

Communication with Instructor
Use email or come to office hours.

Check the course Piazza site regularly!
If I become ill, I will inform you the night before that I will be absent. Please email me before class if you will not be in class. Please set your spam controls to accept my email address.

Dropping and Adding
Students are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. Information regarding add/drops can be found at: <http://info.sjsu.edu/web-dbgen/narr/soc-fall/rec-324.html>. Information regarding a late drop can be found at: <http://www.sjsu.edu/sac/advising/latedrops/policy/>
Students should be aware of the current deadlines and penalties for adding and dropping classes.
Assignments and Grading Policy

Quizzes
You will have five quizzes. They will comprise multiple-choice and short answer questions. You will have 20 min to complete each quiz, after which class will resume. Study guides will be provided.

Self-Management Project Report
You will design and conduct a semester-long self-management project. This project will require you to identify one or more target behaviors of your own that you would like to change using the principles of behavior discussed in class. You will find at least one classmate who will serve as your “buddy” behavioral manager to assist you in your project. You will assist your buddy with his/her project. This will allow you to support one another, offer encouragement, and keep each other on task and on track. Choose a behavior that you would like to change that you don’t mind sharing with your behavioral manager, fellow classmates, and instructor. More information will be provided throughout the semester. The Final Report must be a minimum of five pages of text plus a cover page, abstract, reference section, and tables/graphs (typed, double-spaced, 12-point font, 1” margins). Projects must use correct grammar, punctuation, and statistical style (as described in the Publication Manual of the American Psychological Association, 6th ed.) and must cite at least five peer-reviewed articles.

Research Proposal
You and a teammate will write a research proposal that will demonstrate your knowledge of the course material in regards to applied and/or clinical behavior problems. To this end, you will: (a) choose a realistic behavior problem for a fictitious client; (b) design a valid and reliable measurement system for assessing that behavior problem; (c) choose an evidenced-based treatment plan for that behavior problem and a method of assessing the social validity of your chosen intervention; (d) design a single-case research study to evaluate the effectiveness of that treatment plan; (e) present fictitious data showing an effective and ineffective treatment (using both graphical and statistical methods). You will also provide a complete IRB protocol, along with any measurement instruments (if possible). Projects must cite at least 10 relevant peer-reviewed journal articles relevant to the chosen behavior and treatment plan. To accommodate diversity of student interests and backgrounds, teams will choose their own specific research topics, based on my guidelines. All topics must be approved. More information will be provided throughout the semester. The Final Proposal must be 10-15 pages of text (typed, double-spaced, 12-point font, 1” margins) plus a cover page, abstract, reference section, tables/graphs, and completed IRB protocol. Projects must use correct grammar, punctuation, and statistical style (as described in the Publication Manual of the American Psychological Association, 6th ed.). Presentations should last 10-15 minutes (including questions) and should use PowerPoint (or equivalent presentation software). All group members must speak during the presentation. This project will serve as the culminating experience of the course. Teams will comprise 2-3 students

Make-up Quizzes
Make-up quizzes will only be given if you contact me prior to missing the exam in question. If deemed necessary, a single make-up quiz will be given at the instructor’s convenience and discretion. Any student that fails to contact the instructor by the next class meeting following the missed quiz forfeits his/her eligibility to take a make-up quiz.
Grading Policy

Your grade will result from the total number of points that you earn during the semester.

Table 1: Assignments and point totals

<table>
<thead>
<tr>
<th>Assignment</th>
<th>How Many?</th>
<th>Points per assignment</th>
<th>Total Points</th>
<th>Percent of Final Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>5</td>
<td>10</td>
<td>50</td>
<td>50%</td>
</tr>
<tr>
<td>Exercises</td>
<td>10</td>
<td>1</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>SMP Report</td>
<td>1</td>
<td>10</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>Proposal</td>
<td>1</td>
<td>30</td>
<td>30</td>
<td>30%</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2: Grading scale

<table>
<thead>
<tr>
<th>Points earned</th>
<th>Percent</th>
<th>Letter Grade</th>
<th>Points earned</th>
<th>Percent</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 98</td>
<td>≥ 98</td>
<td>A+</td>
<td>73</td>
<td>73</td>
<td>C</td>
</tr>
<tr>
<td>93</td>
<td>93</td>
<td>A</td>
<td>70</td>
<td>70</td>
<td>C-</td>
</tr>
<tr>
<td>90</td>
<td>90</td>
<td>A-</td>
<td>68</td>
<td>68</td>
<td>D+</td>
</tr>
<tr>
<td>88</td>
<td>88</td>
<td>B+</td>
<td>63</td>
<td>63</td>
<td>D</td>
</tr>
<tr>
<td>83</td>
<td>83</td>
<td>B (passing)</td>
<td>60</td>
<td>60</td>
<td>D-</td>
</tr>
<tr>
<td>80</td>
<td>80</td>
<td>B-</td>
<td>&lt; 60</td>
<td>&lt; 60</td>
<td>F</td>
</tr>
<tr>
<td>78</td>
<td>78</td>
<td>C+</td>
<td></td>
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</tbody>
</table>

Class Participation

The class will use a seminar format with assigned readings, classroom discussion, and student presentations. The quality of the class will depend, in part, on how well each participant contributes to the work we do in the classroom. If we all are to gain from our efforts, it is very important that everyone come to class prepared to participate actively in discussing the issues at hand. Each member of the class is expected to...

- Attend all classes
- Complete all assigned readings prior to each class
- Participate in classroom discussion on those readings

Your final scores on all in-class presentations will include points related to your participation in ensuing discussions, including questions asked, questions answered, etc. All students should be prepared to ask at least one concise, thoughtful question during each presentation. If you need to miss a class period, please let me know prior to that date by email.

Writing Policy

The quality of your writing is graded in this class. You will lose points if I cannot understand what you are trying to say. If you are not comfortable writing, you should seek additional assistance (see below). Whenever referencing something you have read, you are expected to provide a complete, APA-style reference. It is assumed that you know, understand, and can properly apply APA-style. If not, it is your responsibility to re-familiarize yourself with this style guide. Never reference a web site or web source, ever. If you find a good article referred to on the web, get it, read it, and use that original source.
Important!! The Department of Psychology has adopted the policy that designated written assignments will be returned ungraded for substantial errors in grammar, punctuation, spelling, clarity, conciseness, and validity of content. Papers returned will suffer a minimum penalty of 10% on the final grade on rewritten work. The revised paper must be returned within a maximum of seven calendar days and submitted with a copy of the original work.

Unless otherwise noted, all written assignments must be typed, double-spaced, with 1" margins, and use a standard font (i.e., Arial, Times New Roman, or Helvetica) of size 12. Your name, the semester of the course, and the course name must appear in the upper right corner (except for the SMP and RP). Multiple pages must be sequentially numbered and stabled in the upper left corner. Assignments will not be accepted and will be considered “late” until they are consistent with the above policy.

Late Work Policy

All assignments must be handed in immediately upon request according to the schedule below. Material handed in after this period will be considered late. Ten percent (10%) will be deducted from the final grade for each day that an assignment is late. Assignments more than three days late will not be accepted unless other arrangements have been made with the instructor.

Classroom Environment and Electronics Policy

In an effort to create a classroom environment conducive to sharing one’s thoughts, I require the following classroom etiquette:

- Be polite and respectful to the other people in the class.
- Do not carry on conversations with others during class.
- Do not work on any other course material during class, including studying for other exams.
- Do not sleep during class.

Professional Communication

As a University student, you are encouraged to engage in professional communication with faculty, staff, and your fellow students. This is especially important in electronic mail notes that you might send. When sending email, I would encourage you to create an email account that includes your name (e.g., sean.laraway@internet.com). If you do not create such an email, be certain to include your name in the correspondence. Please be sure to follow the following basic guidelines when communicating in a professional capacity:

- Do not leave the Subject: field blank. Always fill in the Subject: field with a brief and concise description of the content of your email.
- Be sure to identify yourself clearly by stating your full name and the specific course and section number in which you are enrolled.
- Be clear and concise in your statement about what you are asking for or of what you are informing the reader.
- Always spell check your email, proofread for errors, capitalize your sentences and use appropriate punctuation and grammar. No not use abbreviations common to text messages.
- Refrain from formatting your email with colored text, fancy fonts, or strange backgrounds.
- When sending an email to groups of people, list all of the recipients email addresses in the BCC ( Blind Carbon Copy) field. When an email address is designated in the BCC field, the
recipient will get a copy of the email while their email address remains invisible and protected
from the view of the other recipients of the email - some of whom they may or may not know.
• If needed, clearly request a reply. I strongly encourage you to request a response back
if you send something that needs to be graded in a timely matter to be certain it was received.
If you do not hear back within a reasonable amount of time from the person you sent the email
to, politely request a response and resend the original message (you can use the forward
function here).
• Do not use Return Receipt Request (RR) for every email you send because you like
"knowing" when someone opens your email. Not only is this annoying to the recipient, this
feature is intrusive!
• Do not expect an immediate reply. Electronic communication is available 24/7. This is
not true of your instructor or your classmates.
• Raise your right hand and repeat after me: "I will not forward any dumb joke, chain
letters, virus warnings, or unimportant emails to others without their permission."

University Policies

Academic integrity

Students should know that the University’s Academic Integrity Policy is available at
<http://www.sa.sjsu.edu/download/judicial_affairs/Academic_ Integrity_Policy_S07-2.pdf> Your
own commitment to learning, as evidenced by your enrollment at San Jose State University
and the University’s integrity policy, require you to be honest in all your academic course work.
Faculty members are required to report all infractions to the office of Student Conduct and
Ethical Development. The website for Student Conduct and Ethical Development is available
at <http://www.sa.sjsu.edu/judicial_affairs/index.html>

Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism
(presenting the work of another as your own, or the use of another person’s ideas without
giving proper credit) will result in a failing grade and sanctions by the University. At SJSU
plagiarism is the act of representing the work of another as one’s own (without giving
appropriate credit) regardless of how that work was obtained, and submitting it to fulfill
academic requirements. Plagiarism at SJSU includes but is not limited to:

1. The act of incorporating the ideas, words, sentences, paragraphs, or parts thereof, or
the specific substances of another’s work, without giving appropriate credit, and
representing the product as one’s own work;
2. And, representing another’s artistic/scholarly works such as musical compositions,
computer programs, photographs, painting, drawing, sculptures, or similar works as
one’s own.

The following URL will take you to the SJSU library’s plagiarism tutorial. If you have not yet
completed this, it is worth your while to do so.

For this class, all assignments are to be completed by the individual student unless otherwise
specified. If you would like to include in your assignment any material you have submitted, or
plan to submit for another class, please note that SJSU’s Academic Policy F06-1 requires
approval of instructors.
Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make 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 the DRC (Disability Resource Center) to establish a record of their disability.

Student Technology Resources

Computer labs for student use are available in the Academic Success Center located on the 1st floor of Clark Hall and on the 2nd floor of the Student Union.

Learning Assistance Resource Center

The Learning Assistance Resource Center (LARC) is located in Room 600 in the Student Services Center. It is designed to assist students in the development of their full academic potential and to motivate them to become self-directed learners. The center provides support services, such as skills assessment, individual or group tutorials, subject advising, learning assistance, summer academic preparation and basic skills development. The LARC website is located at <http://www.sjsu.edu/larc/>

SJSU Writing Center

The SJSU Writing Center is located in Room 126 in Clark Hall. It is staffed by professional instructors and upper-division or graduate-level writing specialists from each of the seven SJSU colleges. Our writing specialists have met a rigorous GPA requirement, and they are well trained to assist all students at all levels within all disciplines to become better writers. The Writing Center website is located at <http://www.sjsu.edu/writingcenter/about/staff/>

Peer Mentor Center

The Peer Mentor Center is located on the 1st floor of Clark Hall in the Academic Success Center. The Peer Mentor Center is staffed with Peer Mentors who excel in helping students manage university life, tackling problems that range from academic challenges to interpersonal struggles. On the road to graduation, Peer Mentors are navigators, offering “roadside assistance” to peers who feel a bit lost or simply need help mapping out the locations of campus resources. Peer Mentor services are free and available on a drop –in basis, no reservation required. The Peer Mentor Center website is located at <http://www.sjsu.edu/muse/peermentor/>

Tips to help you succeed in Psyc 291

1. Attend all classes and take good notes; Type and compile your notes soon after class
2. Start studying at least 2 weeks before each quiz; form a study group with fellow students
3. Read assigned readings before each class; read each assigned reading at least twice
4. Ask questions in class, in office hours, and on Piazza
5. Check the web site daily and read all postings
6. Make flashcards for important concepts and terms
7. Visit the LARC or Writing Center if you need additional help
8. Complete assignments as soon as the relevant information is presented in class
9. Be a good team member: stay in contact, do your work, meet your deadlines.
10. Start reading NOW.
Acknowledgments

I would like to thank Dr. Ron Rogers for the use of the content and structure from his Psyc 220 syllabus from Spring 2009. I would also like to thank Dr. Susan Snyderski, Dr. Clifton Oyamot, and Dr. Glenn Callaghan for their helpful discussions and recommendations regarding class structure and pedagogy. This syllabus is based on the SJSU Center for Faculty Development’s Accessible Syllabus Template.

Notes on the schedule

This course will follow this schedule to the extent possible. The timing and specific nature of topics and activities may change. You are responsible for being informed of any changes made to the class syllabus. Such changes will be clearly stated in class and will be posted on the class web site before the changes take effect.

- ^ indicates that a brief, informal presentation is required on that day
- SMP = Self-Management Project
- RP = Research Proposal
- K = Kazdin (2010)
- MH = Malott & Harrison (2007). I’ll stop procrastinating . . . when I get around to it.
- MP = Martin & Pear (2011). Behavior modification: What it is and how to do it. (Provided via Piazza)
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic(s)</th>
<th>Reading Due</th>
<th>Assignment</th>
</tr>
</thead>
</table>
| 01/25  | *Introductions & expectations *Introduction to self-management           | Syllabus MH, Ch. 1, 9, 10 (read over next 3 weeks) | --Attendance & Attention  
   --Choose a “buddy”  
   --Start thinking about SMP target behaviors, incentives, aversives, etc. |
| 02/01  | *Introduction to behavioral research                                     | K, Ch. 1, 2 Notes                    | ^Exercise 1:  
   --RP: Project Teams, Task List, Tentative Schedule  
   --List of 3 possible behavior problems with at least 2 relevant abstracts describing each problem |
| 02/08  | *Introduction to applied behavior analysis (ABA)                         | MP, Ch. 3, MP, Ch. 13, MP, Ch. 17    | ^Exercise 2:  
   --SMP: Complete the Self-Modification Exercises 1-3 on p. 50 (including questionnaire in Figure 3.3) |
| 02/15  | **QUIZ #1 (MP)** *Behavioral Assessment                                 | K, Ch. 3, 4                          | ^Exercise 3:  
   --SMP: Describe how your project will meet the 10 Guidelines for Goal Setting on p. 215 of MP to determine your SMP goals.  
   --Finalize target behaviors, incentives, aversives, goals, deadlines, etc.  
   --Complete MH Ch. 10 Objectives |
| 02/22  | *Behavioral Assessment                                                   | Readings (TBA) K, Ch. 5               | ^Exercise 4:  
   --RP: Behavior assessment plan + 3-5 brief article summaries (~50 words each) for articles related to the problem behavior. |
| 02/29  | **QUIZ #2 (K, 3-5)** *Understanding & evaluating the research literature *Data analysis and single-case designs | Readings (TBA) Huitema & Laraway (2006) K, Ch. 12 | ^Exercise 5:  
   --RP: Behavior treatment plan + 3-5 brief article summaries (~50 words each) for articles related to your chosen treatment |
| 03/07  | *Data analysis and single-case designs *Review of SJSU IRB forms & procedures | K, Ch. 13, Appendix Huitema (1986) SJSU IRB forms |                                                                 |

**Tentative Course Schedule**  
**Methods and Design in Applied Research – Spring 2012**
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Notes</th>
<th>Exercises</th>
</tr>
</thead>
<tbody>
<tr>
<td>03/14</td>
<td>*Introduction to single-case research and ABAB designs</td>
<td>K, Ch. 6 Readings (TBA)</td>
<td>^Exercise 6: Complete CITI IRB ethics training &amp; NIH PHRP course; IRB Protocol</td>
</tr>
<tr>
<td>03/21</td>
<td>*Multiple-baseline designs</td>
<td>K, Ch. 7 Readings (TBA)</td>
<td>^Exercise 7: SMP: Progress report, with graphed data (1-2 pages)</td>
</tr>
<tr>
<td>03/28</td>
<td><strong>Spring Break</strong></td>
<td></td>
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<tr>
<td>04/04</td>
<td>*Changing-criterion designs</td>
<td>K, Ch. 8</td>
<td>^Exercise 8: Data analysis knowledge assessment</td>
</tr>
<tr>
<td>04/11</td>
<td>*Multiple-treatment designs</td>
<td>K, Ch. 9, 10 Readings (TBA)</td>
<td></td>
</tr>
<tr>
<td>04/18</td>
<td>QUIZ #3 (K, 6-8)</td>
<td>K, Ch. 11 Readings (TBA)</td>
<td>^Exercise 9: SMP: Progress report: effectiveness of intervention, recycling, etc. with graphed data (1-2 pages)</td>
</tr>
<tr>
<td>04/25</td>
<td>*Internal and external validity</td>
<td>Notes Readings (TBA)</td>
<td>^Exercise 10: RP: Penultimate draft with all references, revised IRB forms, etc.</td>
</tr>
<tr>
<td>05/02</td>
<td>QUIZ #4 (Internal Validity)</td>
<td>Notes Readings (TBA)</td>
<td></td>
</tr>
<tr>
<td>05/09</td>
<td>*Evaluation of single-case designs: challenges and limitations *Summing up: single-case designs in perspective</td>
<td>K, Ch. 14-15</td>
<td></td>
</tr>
<tr>
<td>05/22</td>
<td>QUIZ #5 (Construct Validity)</td>
<td>Exam-related materials on study guide (TBA)</td>
<td>^Final SMP Report *Final RP &amp; Presentations</td>
</tr>
<tr>
<td></td>
<td>Course Review &amp; Presentations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:45-12:00</td>
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