Psyc942: Research Methods & Data Analysis http://psych.unl.edu/psycrs
Office hours by arrangement.

Cal Garbin Burnett Hall 214/230 cgarbin@unl.edu

Course Materials:

- All course materials are available on-line at: http://psych.unl.edu/psycrs/index.html
- Some suggesting things to read: https://psych.unl.edu/psycrs/941/readings_psycrs941.pdf
- You are not required to purchase SPSS (or any statistical package), but you must ensure that you have "working access" to the statistical package(s) you choose to use, so that you consistently complete assignments in a timely fashion.

Course Prerequisites: Psyc941. If you have not had Psyc941, please review the things we learned together in Psyc941 (reviewing homeworks, essay questions and quiz preps will give the best overview) and be sure to ask about anything with which you are not familiar.

Objectives: The major intent of this course is, along with Psyc941, to prepare you to participate in collaborative research with faculty and other graduate students and to conduct your Master's research project (or its equivalent). I chose topics for this course based on an ongoing review of recent Master's Theses, the research being conducted by the faculty in your departments, and attention to both the "standards" and the "hot topics" in research design and statistics. Said differently, the intent of this class it to help you prepare to join local, national & international research, practitioner, and/or application communities, both now and after you have obtained your degree. I think it is important for us to recognize that those research communities are working toward new academic cultures focused on not only respecting and appreciating diversity of gender, sexual orientation, class, age, disability, ethnicity, race, and nationality, but providing the programmatic data and theoretical interpretations to support and promote those changing cultures and the application of their research findings!

Classroom Climate: We have to be able to talk forthrightly about the topics of this class. And to explore the history, current, and likely future approaches of our trade! Some obvious sensitive topics are the variables & labels we use to define our target populations and describe who is in our samples. In particular we have to be sure we are aware of the standards and preferences in our own research/application communities, as well as differences across communities. Our class will welcome students from multiple colleges and programs, not all of whom use either the same "descriptive categories" nor the same "labels" for those categories. And there will be several other sensitive parts (e.g., researcher motivations & bias). So, we gotta find, as a group, a balance between "comfort & coverage". Be sure to let me know when we're bumping up against one of the other! Here's a thoughtful bit offered by the Chair of Psych, "The pandemic and our current political polarization mean that stress is high for everyone. We obviously can't change that but showing empathy and compassion for each other can help. Listen to one another, be aware of other people's needs, and cut each other slack."

Everyone who attends this class is entitled to feel welcome and to feel safe from intimidation, insult, bullying, harassment, or discrimination of ANY sort and safe from unwelcome sexual contact or advances. We will consistently treat each other with respect and support. Both agreement and disagreement drive learning, understanding and successful application, and both are best done with mutual respect, patience and occasionally grace.

Emphasis: With respect to design issues, we will pay special attention to the "rules of evidence" for the analysis of cause-and-effect relationships and the important differences between experimental and concomitant measurement designs. With respect to data analytic issues, we will give primary attention to the family of least-squares techniques that includes analysis of variance and multiple linear regression. Emphasis will be on the pragmatics of hypothesis testing, data analysis and the communication of findings, at a level that is more like "driver's education" and less like "mechanical engineering."

Activities: How we will be spending our time this semester reflects the three "kinds of things" I want you to be able to do with these research/statistical techniques: 1) Be able to talk/write about them using either the proper jargon or "plain language" (assessed by the Short Answer portion of the quizzes); 2) Be able to start with a research hypothesis or question and a data set and to select, complete, and report an appropriate data analysis (assessed by the homework); and 3) Be able to "think on your feet" about the theory and application of these techniques (assessed by the Story Problem portion of the quizzes).

Time and Effort: Most graduate courses in this department meet weekly. Because of the workload, this course has multiple weekly meetings in order to allow you to "spread out" the considerable amount of reading, studying and homework (this is intended as a kindness, honest). Don't thwart the system by procrastinating! **Things you should be doing between class meetings include ...**

1) review your notes and the handouts from the previous lecture

- Determine what part of your notes relate to each of the study questions
- Determine if there is anything you would like to have clarified
- Identifying difficulties early gives us more of a chance of painless remediation

2) do the homework

- The online exercises (Pink Things) allow you to practice working with the language, techniques and procedures
- The computational homework (Green Things) is your best chance to learn what you do and don't understand. Some are shorter, some longer, but all represent what you will do with real research data

3) prepare for the next class

- Look over the study questions and materials that will be covered next
- Preview the next lecture using the web site
- The better prepared you are the "better" the lecture will be!

Homework: There are two kinds of assignments in this class.

Online assignments (Pink Things or Orange Things or some other fanciful color) give you practice and review with the language, identifications, discriminations and decision making that are central to the course topics. These assignments are all conducted using a single-event mastery format. Each assignment has one or more topics and the online software will present you with items (questions, answers, & feedback) until you have gotten the criterion number of items correct in each topic. You are expected to complete each EDU assignment before the class meeting following its assignment. The last day to hand in homework assignments that will be graded and included in your course grade is the Friday of Finals Week.

Computation assignments (Green Things) usually involve statistical analysis and presentation of the results in a prescribed format and style. There is a website at which you can check your computational results and many of your decisions and interpretations before completing the write-up and handing in the assignment. Be sure to include the completed online check with your assignment when you hand it in. When doing these assignments, please invoke "the 15 minute rule" which states, "Whenever you can't make something work in 15 minutes of effort, find help!!" Often the problem is one of mistake or misunderstanding (yours, mine, the documentation, etc.) and additional effort will not help. Usually solutions can be found via email, especially if we exchange data sets, syntax files, ect. Or bring your question to office hours or we'll set up a Zoom to go over things!! The whole system works better if you don't procrastinate. After you hand them in, homeworks will be reviewed and graded on a 1-10 scale. If you have a score less than 9/10, or any incomplete parts of the assignment, I will contact you and let you know that you need to redo portions of that assignment. In order to get a passing grade for the course, you must complete all parts of all computational assignments, and have a score of at least 9/10 on each

Quizzes:

The **Short Answer** portion of each quiz will ask you to respond to a selection of the study questions. There will be some choices, but don't get brave. Your answers should be complete yet concise and must take "sentence and paragraph" form (no lists, phrases, or dependence upon figures, except where specified). All of the questions can be answered in 4-5 sentences (though some take more care to do this). Overly long answers will be carefully perused and richly punished for repetition, wondering off topic, and other trickery designed to prevent me from noticing that you don't really know the answer.

The **Story Problem** portion of each quiz will involve identifications, calculations, written interpretations, comments about "someone else's" interpretations, etc. For the Story Problem portion of each quiz you should bring a calculator. I'll provide whatever computators, tables, etc. are necessary.

It is likely that Short Answers and any "choosing stats" will be conducted using Respondus and be "closed book". It is likely that Story Problems of various sorts will be conducted using Mobius and be "open book" but "closed people".

Grades: Your grade for this course will be based upon performance on quizzes (20% for each of three), homework (40%). Attendance and participation in lecture will be noted and used in the assignment of the final grades, especially decisions about "borderline" grades. Letter grades generally will be assigned using: "A+" 100-99,. "A" = 98-92%, "A-" 91-90, "B+" = 89%, "B" = 88-82%, "B-" = 81-80%, "C" = 79-70%, "D" = 96-60%, "F" = <60%.

The UNL Inclement Weather policy can be found at: https://bf.unl.edu/policies/inclement-weather. If in-person classes are canceled, you will be notified of the instructional continuity plan for this class by Canvas notification and plans for proceeding with the class will be explained at that time.

Extension Request Policy for Psyc942

Please contact me if you would like to request an extension on any lecture assignment for reasons of health (yours or someone for whom you are responsible/helping) or because of religious or secular celebrations not captured in the UNL Academic Calendar. Ideally you will contact me well before the requested extension, but it won't always work like that, so don't let a late request stop you from making a request! It is important to me that you have the opportunity to learn the content and skills we address in this class, and that you have the further opportunity to have your assessments reflect that learning.

Academic Honesty: Students often "gang-up" on the study questions and the homework assignments. This is encouraged, within the following guidelines. When preparing "your share" of the study questions, don't try to write the perfect 5-minute answer. Rather, assemble the pertinent information from your notes and the readings, organize it into meaningful subtopics (often information will have to be drawn from more than one day's lecture, for example), and indicate those portions of the information that are most "central". This will allow each of you to compose your own best answer. This process is often improved by having two or three persons working on each question. Evidence of "sharing" during the exam will result in a failing grade for the exam and possibly for the course, and presentation of the occurrence of the incident to the Graduate Committee, etc. When working on homework, it is a really good idea to brainstorm the issues and procedures of each question, and perhaps even to develop the necessary SPSS code and necessary interpretations. However: 1) The output must result from your computer work; and 2) The written portions of homework assignments (interpretations, formal presentations of the results, etc.) must be in your (unique) own words. You'll have an opportunity to redo the first set of homework that does not meet both of these requirements; further occurrences will be scored zero (and can not be redone).

Services for Students with Disabilities

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can discuss options privately. To establish reasonable accommodations, I may request that you register with Services for Students with Disabilities (SSD). If you are eligible for services and register with their office, make arrangements with me as soon as possible to discuss your accommodations so they can be implemented in a timely manner. SSD contact information: 117 Louise Pound Hall; 402-472-3787. That said, sometimes the system is difficult to navigate, or take too long, etc. and I hope you will be willing to ask me for help.

Finally, here's the thing!

There is much we are supposed to accomplish in this course! And barely enough time to do it well! And the current "troubles" don't make things easier!

If you need something, please ask. There are going to be office hours M-W-F in person in 230 Burnett, or by Zoom. And don't forget email -- <u>cgarbin@unl.edu</u> – please, not Canvas email or Notifications) Give me a shot at helping, please!

If you feel uncomfortable about something from the class, something I've said, another student has said, something we read, etc. please bring it up with me, in whatever way you feel most comfortable, so we can talk it through, sort things out, apologize when necessary and continue as a learning community.

Things in your life will crop up to reduce & delay your time and efforts toward this class... Its gonna happen and we WILL find ways to work around whatever you encounter. Remember that less-than-timely requests for help are also very welcome! Sometimes we get behind and can waste huge amounts of time trying to "recover on our own" when a couple reminders or a couple questions answered from me will get you on your way so you are "spending time" not "wasting it"! Ask! Please!