Sample Syllabi – Subject to Change
PSYC 21280 94 - Foundations of Psychological Research

Instructor: Karina Kling
Course Location: Hybrid
Weeks 1-2: *Zoom*
Week 3: *In-Person*

Course Description
This course introduces students to the basic concepts and methods used in conducting psychological research in order to gain understanding of how science can be used to answer questions about thoughts, emotions, and behavior. Throughout the class, students will explore various research designs and how to create a research plan, reflect upon published psychological research in context, and interact with experimental psychologists. In their final projects, students will pose a research question of personal interest and design a psychological study to answer this question using elements of methods they've learned in the class.

Goals
By participating in this course, students will:

- Acquire knowledge of key research design categories commonly used in psychological research (experimental studies– single-subject and single-group designs, one-way and multi-way group design, repeated measures; observational and quasi-experimental studies; secondary and meta-analyses of previously collected data)
- Learn to differentiate between research design categories and create appropriate pairings of research questions and study designs
- Talk about real-world examples of research methods in action from published literature across psychology sub-fields
- Discuss generating hypotheses and using communication strategies effectively to share research
- Synthesize newly learned concepts by proposing a study design to answer a novel psychological research question

Course Structure
The course takes on a hybrid structure – for the first two weeks, sessions will be held on Zoom with one, 2.5-hour meeting per day and asynchronous activities to complete outside of this meeting time. For the final week of the course, class meetings will occur on the University of Chicago campus with two sessions per day - a morning session from 9:00-11:30am and an afternoon session from 1:00-3:00/4:00pm.

The class will include both instructional and discussion/activity components intended to engage critical thinking about research design. In addition to learning about key psychological research methods and how they relate to research questions, you will discuss the use of these designs in the context of published research and think more deeply about planning a study approach to a research question of personal interest. You will also be invited to meet experimental psychologists from a variety of sub-disciplines, ask questions, and learn about their research at an in-class panel event.

Assignments in the class will include participation in a variety of discussions, activities, reading and responding to published research studies, and creating a final project with written and presentation components:

Online discussions and activities (40 points total) – During the class's three weeks, you will be asked to participate periodically in asynchronous discussions or assignments on Canvas which include practicing the application of topics covered in class, preparing for synchronous discussions, and/or scaffolding the creation of your research proposal (see below). Guidelines for each activity will be posted to Canvas.

Reading reflection responses *(20 points total)* **-** Throughout the course, you will briefly respond to questions on Canvas aimed to reflect on an assigned reading. Responses are typically expected to be about one paragraph in length, unless specified otherwise by the question.

Written Research Proposal *(20 points)* ***+ Presentation*** *(10 points)* **–** The final project of the course involves creatively synthesizing information you've learned, and has two components: a one-page written research plan and a brief (~5 minute) presentation on the final day of class. As the course progresses, you will brainstorm and eventually choose a psychological research question of personal interest which could hypothetically be answered by employing one or more study designs from the class. The written paper involves proposing your question with 1-2 academic sources to provide background on previous research in the field, briefly describing how you would acquire useful data relevant to the question, designing a study to address your question using method(s) from class, and explaining how you might communicate about your research project with an audience of your choice. The presentation provides an opportunity to put your proposed communication strategies into practice and share your work with your classmates.

Participation in Class Meetings *(10 points)*

Materials

Course Readings: All readings for the course are drawn from a variety of psychology sub-disciplines and will be available on Canvas.

Schedule *(flexible)*

Week 1 (Zoom)

Day 1: Introductory day – what is psychological research and how is it conducted?
Homework: (1) Watch E.O. Wilson's "Advice to a young scientist" TED talk
(2) Respond to Canvas discussion: What excites you about psychology? List 2-3 broad research topics that you find particularly interesting.

Day 2: Asking research questions with design-focused considerations (variables, sampling, and more!)
Homework: Create 5 research questions that are of interest to you and post them to Canvas. Comment on at least one classmate's questions.

Day 3: Conducting literature reviews and reading research articles
Homework: (1) Review your classmates' feedback on your research questions and choose one of your questions/topics to pursue as your proposal project.
(2) Using strategies discussed in class, find 1-2 articles relevant to your research question and post a summary of their findings to Canvas.
(3) Read "The Legacy of Patient H.M. for Neuroscience" (Squire, 2009)

Week 2 (Zoom)

Day 1: Single-subject and one-group designs
Homework: Read and respond to "Relationships between depressive symptoms and brain responses during emotional movie viewing emerge in adolescence" (Gruskin et al., 2020) on Canvas

Day 2: Multi-group designs (independent, matched pairs, factorial)
Homework: (1) Read "Kindness intervention and effects on happiness" (Rowland & Curry, 2018) on Canvas
(2) Read "Speakers' Overestimation of their Effectiveness" (Keysar & Henly, 2002)
(3) Choose one of the above articles to respond to on Canvas

Day 3: Repeated measures and within-group designs
Homework: (1) Read "The effect of the timing of math anxiety measurement on math outcomes" (Conlon et al., 2021) on Canvas
(2) Read "The Halo Effect: Evidence for Unconscious Alteration of Judgments" (Nisbett & Wilson, 1977)
(3) Choose one of the above articles to respond to on Canvas

Day 4: Observational and correlational designs
Homework: (1) Read and respond to "Sleep quality, duration, and consistency are associated with better academic performance in college students" (Okano et al., 2019) on Canvas

Day 5: Secondary data and meta-analyses
Homework: (1) Read "Parent Praise to 1- to 3-Year-Olds Predicts Children's Motivational Frameworks 5 Years Later" (Gunderson et al., 2013)
(2) Submit a proposal paragraph to Canvas that includes your research question of interest for your final project, an explanation of why your research question is important, and your thoughts about which research design(s) would be most helpful in context of your question

Week 3 (In-person)

Day 1, Morning: Generating hypotheses and "the why" of your experiment
Day 1, Afternoon: Your research design (discussion)
Homework: (1) Consider and post 2 questions you might have for an experimental psychologist in anticipation of our panel
(2) Spend 10-15 minutes looking for a [reputable] research finding that interests you and is shared in a place other than an academic journal (e.g. news article, video, podcast, poster, etc.). Post a link on Canvas, and prepare to discuss your choice in class tomorrow.

Day 2, Morning: Experimental psychologist panel
Day 2, Afternoon: Communicating about research – consider your audience (discussion + brainstorming time for homework)
Homework: (1) Post a paragraph to Canvas reflecting on at least one panelist's description of their research
(2) Create two, 60-second videos that are aimed to tell two different audiences about your research (one audience per video). Post these "elevator pitch" videos to Canvas. Comment on at least two classmates' posts with a guess about who their intended audiences are. [For help with "elevator pitches", see:

Day 3, Morning: Communicating about research, part II
Day 3, Afternoon: [Possible] attendance at a research lab meeting
Homework: TBD

Day 4, Morning:
Day 4, Afternoon: Working time for final written research proposal and presentation
Homework: Work on final written proposal and presentation for tomorrow

Day 5: Presentations of final research design plans (and final written plan due)