Course Outline

Week	Topic
June 23	**What is meta-research? How can we use meta-research to change science?** **Preparation:** Select and read at least three articles from the science of science reading list.
June 30	**Designing a meta-research study** **Preparation:** Review detailed protocols for two meta-research studies
July 1-21	**Virtual brainstorming:** We will hold one Virtual Brainstorming Day to discuss each of the ideas proposed by the instructors, and an additional Virtual Brainstorming Day to discuss proposals from the class and select "wild card" ideas in weeks 2 and 3 of the course. Class members will divide into groups to draft protocols for each proposed project. You can find information on Virtual Brainstorming Days here: https://osf.io/c5gyz/. You'll be asked to check in on Teams 2-3 times over the course of each brainstorming day to share your thoughts and respond to others' comments. **Assessing feasibility:** Students will complete feasibility assessments for each proposed project.
July 28	**Selecting a project** **Preparation:** Rank the project ideas in order, and provide reasons for your ranking. Consider the following criteria: 1. Quality of the study design 2. Feasibility (time & resources needed to complete the project) 3. Is the project a good fit for the expertise of the team? 4. Potential to change scientific practice (Are solutions to the problem available? How might the project lead to new solutions?) 5. Personal interest
Aug 4	**Creating screening, abstraction & analysis protocols** Class members will divide into three groups to work on the screening, data abstraction and data analysis protocols. Each group will develop and test their protocol, revise their protocol, and create a training set of 25 articles. **Deliverable:** Screening and abstraction protocols
Aug 11	**Screening & selection**

	Preparation: Log onto Rayyan and complete screening for the training articles
Aug 18	**Why you need a dissemination strategy, and how to design one that works** **Deliverable:** From August 4-18, the team will complete screening, the study flow chart, and the final study protocol
Aug 25	**Abstractor training 1: Testing & revising a data abstraction protocol**
Sept 1	**Creating a repository, Abstractor training 2** **Deliverable:** Final protocol deposited on OSF, all abstractors completed training, data abstraction plan & timeline
Sept 2-Oct 27	**Data abstraction, resolving discrepancies** Weekly call to discuss progress, resolve issues and discrepancies, deal with challenges that arise during data abstraction
Oct 28 – Nov 3	**Data analysis**
Nov 10	**Communication strategies – introduction, methods, visualizations** **Deliverable:** Draft introduction, methods, educational visualizations
Nov 11- Nov 24	**Data figures, writing results** **Deliverables:** • Revised drafts of introduction, methods, educational visualizations • First draft of data figures, results
Dec 1-15	**Discussion, Revising the manuscript** **Deliverables:** Final draft of manuscript

Leadership – Career Development

Students will work collaboratively in small groups and will lead specific tasks or sections of the project throughout the course. Students will gain skills for multidisciplinary, collaborative team science.

Grading Scheme

Course marks will be assigned based on the following criteria:
1. Protocol: 10% (same mark assigned to all course participants)
2. Manuscript: 30% (same mark assigned to all course participants)

3. Repository: 10% (same mark assigned to all course participants)
4. Leadership activities: 15%
5. Contribution to project: 35%