

## **PUBH 702: Systematic Reviews Spring 2020**

**Mondays 12:20-1:10 pm**

### **Instructors:**

Dan Jonas, MD, MPH

Cindy Feltner, MD, MPH

Virginia Moyer, MD, MPH

This is a 1-credit course that is meant to give the student a stronger background in assessing and conducting systematic reviews. The course focuses on:

- (1) reading, discussing, and critiquing systematic reviews on various topics;
- (2) reading background and methods articles on systematic reviews;
- (3) developing a focused question for your own systematic review;
- (4) working on the systematic review over the semester.

The course will be a mixture of lectures, class discussions, and small group student-driven discussion, with students presenting their work in progress. Portions of some sessions will be set aside for small group or individual meetings.

Please check the course Sakai website for weekly reading assignments and further information about the course during the semester. It is essential that each week's reading be done before class.

### **General Learning Objectives:**

At the end of this course, students should be able to:

1. Have a good knowledge of how to critically appraise a systematic review;
2. Have a good knowledge of how to conduct a systematic review;
3. Have completed more than half of the work of their own systematic review (i.e., turn in a "partial systematic review"), including having developed a focused question, writing Introduction and Methods sections, developing and using eligibility criteria to select admissible evidence, developing and using search terms to find potentially eligible articles, assessing articles for inclusion/exclusion, assessing the risk of bias of potentially eligible studies, developing an evidence table of included studies, and beginning to interpret the findings.

### **Grades:**

1. 50% of the grade is from in-class participation, including presentation(s) of work in progress. [Note: evaluation of participation is not based entirely on the volume of comments made by a student. Excellent participation also involves the quality of comments, including their thoughtfulness and the degree to which they demonstrate that the student has not only done the expected reading but has also gone beyond this to read and think more deeply.]

2. 50% of the grade is from the instructor's evaluation of the partial systematic review that the student completes this semester.

To be considered for Honors, a student must attend regularly, participate at a level beyond that expected for all students, and write an outstanding partial systematic review.

### Small Groups

We will assign small groups for the first half of the course; then we may re-group students for the 2nd part of the course based on topics (e.g., to put students with similar topics or methods together).

### Schedule

Date	Leader	Content	Homework* (in addition to reading posted on Sakai)
Jan 13	Dan Jonas	Intro to course; Resources; PRISMA; PICOTS; Basic Steps; Master's Paper; assign teams and start to discuss focused questions	
Jan 20	No Class	MLK, Jr. Holiday	
Jan 27	Dan Jonas	Discuss focused questions; example of systematic review to discuss	Bring written draft of your focused question and eligibility criteria (PICOTS) to class
Feb 3	Christiane Voisin	Literature searches	
Feb 10	Mary White	Covidence, lit searches, and working with HSL	Bring written draft of your literature search plan to class
Feb 17	Cindy Feltner	Topic Refinement—getting the questions right, thinking about the result	Bring revised draft of your question, eligibility criteria, and search plan; think about questions you want feedback on
Feb 24	All	Students present their Question(s) and PICOTS (class to split in half for brief presentations)	Powerpoint slides due to TA 1 day prior to presentation**
Mar 2	All	Students present their Question(s) and PICOTS (class to split in half; 7 ½ minutes total per student)	Powerpoint slides due to TA 1 day prior to presentation**
Mar 9	No Class	Spring Break	
Mar 16	Dan Jonas	Recap, article review, tracking, and open discussion (how to go from a pile of abstracts to having the data)	Draft of your article flow diagram (i.e., PRISMA figure) (the numbers don't all have to be finalized; ok if you are still reviewing things)
Mar 23	TBD	Data extraction and evidence tables	Bring draft evidence tables tailored to your topic to class (study characteristics tables and results tables) - see instructions on Sakai

Mar 30	Cindy Feltner	Data synthesis discussion; organizing Results	
April 6	TBD (Dan out)	Risk of bias ratings	Draft risk of bias tables (1 row per study)
April 13	TBD	Data synthesis, whether or not to pool results, meta-analysis	To be determined
April 20	Dan Jonas	Strength of evidence (SOE); Students submit partial systematic reviews 1 week later	Draft SOE tables (1 row per outcome)

**\*The homework items are to be printed on paper or in electronic form (e.g., Microsoft word). They are not intended to be submitted to the instructors but are intended to be shared with your small group for discussion and feedback.**

**\*\*Be prepared to submit feedback on presentations made by classmates**

### **Partial Systematic Review**

Your final deliverable should be **no longer than 4000 words**, including the written text (Intro, Methods, beginning of Results) and outlined text (the rest of Results and all of the Discussion). Any Tables, Figures, or Appendices related to the Introduction, Methods, and beginning of the Results (PRISMA figure) should be included and completed, but those related to the rest of the Results or Discussion do not have to be filled in (empty shells are enough).

**Include a title page** with the title, your name, your email, and the word count.

Note that we will compare your partial systematic review with **the PRISMA checklist** when grading it. So, make sure you've reported the required items (but an abstract is not required). For reporting things in the Results and Discussion that are on the PRISMA checklist, make sure to include placeholders for them in your outline.

For the partial systematic review, you should have developed a focused question, established clear eligibility criteria to select admissible evidence (include a Table detailing these criteria), developed search terms to find potentially eligible articles, assessed articles for inclusion/exclusion, and described your planned methods for assessing the risk of bias of eligible studies and synthesizing the results.

Requirements for the final deliverable (your partial systematic review):

1. Report everything in the PRISMA checklist (but an abstract is not required)
2. Intro: complete written Introduction
3. Include clear description of at least 1 focused question and its importance. Having more than 1 question is OK, if necessary.
4. Methods: complete Methods section written in past tense as appropriate for a journal publication (even for things you haven't yet done)
5. Perform main searches in at least 2 databases (e.g., PubMed and Cochrane); description of search strategy in the Methods can be condensed, but the full search details for the PubMed search should be included as an Appendix (not required for other databases searched).
6. Include a Table detailing eligibility criteria
7. Search [clinicaltrials.gov](http://clinicaltrials.gov) to look for unpublished studies and results (grey literature) or provide rationale for why it's not necessary for the topic.

8. Results: results with completed/written description of the article flow diagram (i.e., the PRISMA figure) as the 1<sup>st</sup> paragraph, followed by an outline of the rest of the Results section.
9. Include a completed Figure detailing the article flow (i.e., the PRISMA figure).
10. Discussion: outline of the Discussion.