

QBS Seminar Series 194/270 (FA20)



QBS 194/270: Epidemiology Journal Club Course director: Jennifer A. Emond, PhD, MS Assistant Professor of Biomedical Data Science

Course Overview

This course emphasizes critical evaluation of contemporary epidemiological studies and the development of effective presentation skills. Students will gain exposure to a breadth of epidemiological methodologies within public health and biomedical research. Class meets weekly. Each week, all students will read two papers within one topic area, and two students will present on one paper each. Topic areas are pre-selected and are updated each year. Students who are not presenting must read the selected publications and submit two thought questions per publication before class to help guide the class discussion.

Learning Objectives. In this course, you will learn the skills to

- Critically evaluate epidemiological studies within public health and biomedical research
- Present the findings from epidemiological studies to your peers
- Provide constructive feedback to your peers regarding their presentation skills
- Synthesize the findings across studies within an epidemiological topic area

Presentations

Each week two speakers will present. Each presenter is allotted 30 minutes. Please plan for an additional 15 minutes for questions and discussion with the audience.

Please organize your presentation in the traditional format of an epidemiology study:

- Background
 - Background of the topic and justification for the current study
 - Reach goals and/or study hypotheses
- Methods
 - Study design, data collection methods, data cleaning/subsetting (as appropriate), primary variables (e.g., exposure, outcome, covariates), analytic approach
- Results
- Discussion
 - Recap main study findings
 - Alternative explanations
 - Strengths and limitations
 - Implications of study findings

Each speaker must complete a self-reflection form after his/her presentation. Please submit that completed form online within 24 hours after your presentation.

Course Expectations

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- Show up on time and plan to attend for the full 90 minutes. Notify the course director ahead of time regarding expected absences.
- Be prepared for class: read all publications and complete all pre-class assignments.
- Be courteous to and respectful of your peers in class.
- Provide **constructive** feedback to your peers who present.
- Prepare a thoughtful and engaging talk for your peers when it is your time to present; make sure you respect your peers' time and commitment to reading the selected publications.
- **Do not use cell phones in class.** Only use laptops for reviewing publications or other class-related material. Anyone completing non-class related work will be asked to provide a detailed, written summary of each publication discussed in class.
- All students must abide by the Dartmouth College Academic Honor Principle.

Grading

The criteria for final grades are high pass (a final grade of $\geq 95\%$), pass (a final grade of 75-94%), low pass (a final grade of 65%-74%) or fail (a final grade of 0-64%). Grading components include:

- Presentations (60%)
 - Grading rubric is below.
- Thought questions (20%)
 - Excellent ($\geq 75\%$): Questions/comments directly relate to a methodological aspect of the study that deserves scrutiny (e.g., assessments used, analytical approach, inference, bias, generalizability) or the implications of the work. Students will not be graded on their understanding of specific methodological approaches. Instead students are graded on their critical thinking.
 - Acceptable (65%-74%): Questions/comments relate to the study yet appear cursory or reflect knowledge that could be answered with a brief internet search.
 - Fail: ($< 65\%$): No submission or questions/comments are not related to the topic.
- Class participation (20%)
 - Pass ($\geq 85\%$): Questions/comments during class help motivate class discussion. Students will not be graded on their understanding of specific methodological approaches. Instead students are graded on their critical thinking. Clear demonstration of support for other classmates.
 - Fail ($< 85\%$): Persistent questions/comments in class that are unrelated to the topic. Persistent violation of course expectations (see above).

Grading Rubric for Presentations		
Review Criteria	Description	Grade
Mastery	Mastery of the study is demonstrated. Justification of the study and gaps that the study fills are clearly	95% or more

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	<p>communicated. The methodology is succinctly presented, and the analytic approach is correctly presented.</p> <p>Text summaries, tables and visual data displays are clear, succinct and accurate. Interpretation of the data findings and inferences are correct; study limitations are appropriately noted.</p> <p>Communication is clear.</p>	
Excellent	<p>The material in the study is accurately presented. The study justification, methods and results are clearly and accurately presented. The study strengths/limitations are noted, and the study implications are presented.</p> <p>It is acceptable if the student is not familiar with the topic or the methodology used if she/he attempts to present the study content as summarized in the publication.</p> <p>Communication is clear.</p>	85%-94%
Acceptable	<p>The presentation is well organized and accurately conveys the study findings. However, there are some deficiencies in presenting the material as summarized in the publication that are could have been avoid if more effort were made.</p> <p>Communication is clear.</p>	75%-84%
Fair to Poor	<p>There are several deficiencies in presenting the material as summarized in the publication that are could have been avoid if more effort were made.</p> <p>Presentation is unorganized and communication is unclear.</p>	0-74%

Class Environment

My goal as course director is to provide an engaging, challenging yet fun atmosphere for students to refine their critical thinking skills. I value creating a classroom environment where introverts and extroverts are equally represented, and I will implement various mechanisms where students can contribute to class discussion equally. We will discuss sensitive topics in class, and you are expected to act respectfully towards others. Please feel free to share any questions or comments about the course with me.