

# EPI 2110 – Principles of Epidemiology

## Fall 2020 (CRN 13845)

Graduate School of Public Health, University of Pittsburgh

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### Purpose:

Epidemiology is a scientific discipline which seeks to identify and describe patterns of disease occurrence, identify determinants of disease, and evaluate disease prevention and health care treatment efforts. With its focus of study in human populations, epidemiology contributes important evidence-based information to public health research, policy, and practice. This core course is designed to introduce students to the fundamental definitions, terminology, concepts, methods, and critical thinking used in epidemiology. Particular attention will be given to the descriptive epidemiology activities that identify health patterns and their distributions in populations and analytical epidemiology activities that examine factors affecting health and health outcomes in populations. The material presented in this course will provide students with foundational knowledge to support future study and practice in public health activities.

### CEPH MPH Competencies:

Content and instruction in this course are designed to allow students to attain competency and knowledge in two integral facets for practice in public health and community organizations as identified by the Council on Education in Public Health (<https://ceph.org/assets/2016.Criteria.pdf>). Specifically, these include:

**C1. Apply epidemiologic methods to the breadth of settings and situations in public health practice.**

**K4: List major causes and trends of morbidity and mortality in the US or other communities relevant to the school or program.**

## **Course Objectives:**

The content of this course will permit students to apply epidemiology methods appropriately by developing specific knowledge and skills in epidemiology. More succinctly, students will be able to:

1. Apply and interpret the basic terminology, models, and definitions of epidemiology.
2. Calculate and interpret basic epidemiology measures.
3. Identify key sources of data for evaluating a health issue in an epidemiologic context.
4. Describe a health issue in terms of its importance and the person, place, and time patterns that characterize its occurrence in the community.
5. Identify the principles and strengths and limitations of public health programs focused on outbreak investigation, surveillance, and screening.
6. Describe the research process and key components involved in identifying determinants of disease, disability, injury, or health care interventions and factors affecting health promotion.
7. Interpret and draw appropriate inferences from epidemiologic studies investigating the determinants of disease, disability, injury, or health care interventions, or health promotion.
8. Recognize basic ethical principles pertaining to the collection, maintenance, use, and dissemination of epidemiologic data.
9. Evaluate epidemiologic evidence to formulate reasoned strategies and decisions on health issues in the community.
10. Identify how social and economic factors can influence health and equity in health in populations.

## **Course Structure:**

The structure of the course is built around multiple modes of asynchronous and synchronous instruction and review to enhance understanding of the concepts of epidemiology and their application.

Asynchronous instruction and review:

- The course is organized around 26 lecture modules to introduce key epidemiology concepts.
- Each module will include lecture slides and slide notes. The slide notes will detail key points conveyed in each individual lecture slide. Students are encouraged to review these posted notes prior to the synchronous sessions.
- Audio-recordings of the lecture slides will be available for those who wish to review material in further detail. It is not a requirement to listen to this recording. Note: These recordings are from an earlier course offering. In some instances, the material will differ slightly.
- In selected modules, short YouTube and/or Panopto video recordings will be posted to emphasize and reinforce key lecture concepts.
- Practice questions will be posted in most, but not all lectures to provide further examples relevant to the lecture material. Students are encouraged to review this material and the posted answers to identify their strengths and weaknesses on the related concepts.
- Assigned lecture questions will be provided for most lectures to provide a short assessment of your understanding of parts of the lecture material. Completion of these questions is a course requirement. Feedback will be provided upon completion of the questions.
- Homework assignments will be used in selected lectures to support quantitative and critical thinking learning.
- A lecture quiz will be posted at the end of several lecture modules. Completion of these questions is a course requirement. Feedback will be provided for the questions..

Synchronous instruction and review:

- On Tuesday and Thursday evenings from 6:00-7:20pm, a synchronous lecture and/or recitation session will be held to review key lecture content and work through practice problems and related discussion. Attendance in this learning period is strongly encouraged, particularly to hear further discussion and practice on the lecture concepts. Students are expected to review the lecture slides and complete recitation assignments prior to class to be aware of the fundamental objectives and material. Note: These sessions will focus on key components in each lecture, some material may not be discussed. All material may be a part of assessments.
- When the university is in the elevated or the high risk designations, these sessions will be conducted remotely using the Zoom meeting software application. The link to enter each meeting will be <https://pitt.zoom.us/j/99624618051>, password: epiclass.
- When the university is in the guarded risk designation, these sessions will be conducted in-person with a Zoom synchronous session held simultaneously. Use the same Zoom link from above to enter the session. We will meet in G50 WPU (William Pitt Union). As this room is not able to safely seat the 180 students in the course, students with even numbered PeopleSoft ID numbers will attend on Tuesdays (others to attend on Zoom), and students with odd numbered PeopleSoft ID numbers will attend on Thursdays (others to attend on Zoom). Students have the option to attend all of these sessions remotely as well.
- The Audience Retrieval System app called “TopHat” will be used in most lectures and recitations. This system is available to students free of charge. You can login using your Pitt username and password (identify University of Pittsburgh as the site, and use the SSO bypass to login). You can also access TopHat through a mobile phone app.
- Tuesday sessions will cover major material from the listed lecture. Top Hat questions will be utilized in these sessions for review and discussion. Note: Only fundamental principles will be reviewed in the session. All material may be used in the assessments.
- Thursday sessions will involve a review of lecture material from 6-6:30, then we will breakout into groups to hold a recitation session from 6:35-7:20pm. Recitation periods will be led by faculty and teaching assistants, and will involve a review and discussion of assigned problems.

### **Course Requirements:**

The course requires completion of the following assessment materials.

Most lectures (n=20) will contain **assigned lecture questions**. The purpose of these short assessments (3-5 questions) is to allow all participants to gauge their level of understanding and recognition of key lecture material. The assessment/responses will be graded upon their completion, and not the content or correctness of the answer. Students, however, should attempt to answer the questions on a “good faith attempt” basis. Answers will be provided upon completion of the questions. Completion of the assigned lecture questions is due by one week after the lecture date. Late or incomplete assessments will result in a reduction in grade by 0.25 points per assessment.

A **lecture quiz** will be given at the end of most lecture modules (n=20) to formally assess your level of knowledge of components of the lecture material. The quizzes will be four questions in length and given through online testing. Each quiz will be structured to include 2-3 questions of average rigor, and 1-2 questions of higher order thinking. Selected quizzes will have one additional extra credit question. Lecture quizzes are due by one week following the lecture date. Answers to the quiz questions will be posted after this due date. Quizzes submitted late will receive a 0.25 point deduction.

Completion of five **individual homework assignments** will be required in the course to provide additional practice on key concepts presented in the course. The assignments pertain to topics that generally cover issues requiring quantitative and critical thinking skills. Please consult the schedule at the end of this syllabus to identify the assignments and their due dates and times for receipt. You should return the homework assignments as instructed in the assignment.

Note: Homework exercises will be scored (for grading purposes) on the basis of selected questions within each assignment. Exercises with correct interpretations on these questions will receive full credit for the assignment. Exercises that have incorrect interpretations will receive a small deduction in score. The purpose of the homework assignments is to help you identify areas of strength and weakness in the concepts presented. You will be expected to review posted answers to verify your performance on all questions in the assignment. Help to address an identified weakness can be obtained at the end of recitation periods, and/or through office hours. **A 0.5 point reduction will be given if an assignment is turned in late** (unless prior arrangements have been made).

Completion of five out of nine recitation assignments will be required in the course. On nine selected Thursdays (see schedule) we will review and discuss additional problems related to the lecture material. Students must complete the posted recitation assignment prior to this session to receive credit for completion of the assignment. The recitation assignments will be completed and submitted through the TopHat application. Grades will be based upon completion of the assignment, not the correctness of the responses. Completion of each assignment can be identified in the TopHat gradebook, and scores on this assessment will be applied to your course total score in Canvas at the end of the term. Students must monitor their completion of these assignments in TopHat during the term. Completion of five the nine assignments will result in full credit. Completion of fewer assignments will receive a 1 point deduction per assignment below the threshold of five.

**Four exams** will be given during the course to evaluate the level of mastery of the material presented. All exams will be completed online on the following days, September 15, October 8, November 5, and December 3. The final exam on December 3 will cover material from Lecture 14 to Lecture 26. Students will be allowed to use notes and lecture materials during the exams. Remember, also, to have a working calculator available for these exams. Makeup exams are allowed only under extenuating circumstances given the very large size of this course.

The exams will be comprised of a variety of question formats. Essay questions will query your ability to problem solve and apply the lecture material to relevant health scenarios. Short answer and multiple choice questions will assess your recognition of key lecture topics and your synthesis of these topics. In addition, some exams will contain a heavy dose of problems requiring mathematical calculations. The purpose of each of the exams will be to evaluate how well the student recognizes and expresses the concepts of epidemiology, why certain actions are done in epidemiology, and the appropriate application of epidemiologic approaches and methods. This means that, in many circumstances, you will be required to think and state how an epidemiologic principle applies to a given situation, or to identify which given example is the best representation of an epidemiologic principle. The exams are based on critical thinking and not on memorization.

## Grading Policy:

Course requirements will be weighted in the following fashion to determine the final course grade.

Assigned Lecture Questions:	10%	(0.5% each)
Lecture Quizzes	20%	(1% each)
Individual Homework Exercises:	5%	(1% each)
Recitation Assignment Exercises	5%	
Exams:	60%	(15% each)

Grades will be assigned using a letter grade as follows:	A:	90% or higher
	B:	80% to < 90%
	C:	70% to < 80%
	F:	< 70%

Students who withdraw from the course must verify that they have been removed from the class roster maintained by the University Registrar.

## Course Expectations:

As a student in this course, you can expect the following:

Epidemiology is a unique discipline that utilizes a blend of quantitative and qualitative skills and abilities to address important health issues in the community. In epidemiology, heavy emphasis is placed upon describing the importance of health issues through quantitative measures where there are correct and incorrect methods to identifying answers. However, in epidemiology, a professional must also be able to interpret this quantitative information in the context of the community and accepted practices. This interpretation involves the use of critical thinking skills. It is often the case that there can be more than one correct answer to the proper interpretation of a health related issue. However, a professional must choose among various options to identify a best response (i.e. a solution that is the most appropriate for the problem posed given the information available). **Acquiring the knowledge and skills to make reasoned judgments is one objective of this course.** Many students may not have extensive experience in making judgments where there is not one right or wrong answer. As a result, some students may become discouraged, especially if their interpretations are marked off on an assessment. Be patient and keep on trying. Making reasoned judgments takes time and practice.

This course is a required course for most students in the Graduate School of Public Health. As a result, it contains students from many different cultures and backgrounds and with many different levels of understanding and expertise. You may read or hear responses during the course that are not readily apparent to you, as someone may be presenting a response from their area of expertise. Be prepared to add to this discussion from your own area of background or to ask for clarification in these situations. Let's take advantage of the diversity in our class to learn epidemiology.

The graduate nature of this class also means that there is the expectation that students will monitor their academic progress and seek help when necessary. Suggested answers to practice exercises, assigned lecture questions, homework assignments and quizzes will be posted as part of the course material for each lecture. Students are expected to review this material and their own completed work to independently assess their level of understanding of the material. If questions still remain, students should seek input from the teaching assistant or instructors using the office hours, or recitation periods.

## **Path to Success in the Course:**

In general, students should plan to spend approximately 8 hours per week on course material. For each lecture, students should mind the following path through the posted documents.

1. Read the lecture slides and slide notes (exam questions will be based on this content)
2. Review video and/or audio recordings if parts of lecture are not fully understood
3. Review key summary points from the lecture to target the major points of emphasis
4. Complete practice questions and review posted answers
5. Complete assigned lecture questions (course requirement)
6. Complete and review recitation assignments and related homework assignments and posted answers (course requirement)
7. Complete lecture quiz questions (course requirement)
8. Successful completion of the four exams. Exam questions will be modeled heavily on the parameters in the homework questions, recitation questions, and practice questions. Also, please note key terminology used in the title slide of each lecture and specific lecture slides. This terminology will be used to distinguish principles that the question pertains to.

## **Recommended Text:**

There is no required textbook for this course. It is most important that you provide attention to the instruction in the lecture, lecture slides, and supplemental material and discussions. If you rely upon textbooks to aid your learning, one of the following books is recommended.

**Epidemiology, 4<sup>th</sup> edition**, Gordis (2009), Elsevier (ISBN: 978-1-4160-4002-6).

**Epidemiology, 5<sup>th</sup> edition**, Gordis (2014), Elsevier (ISBN: 978-1-4557-3733-8).

**Gordis Epidemiology, 6<sup>th</sup> edition**, Celentano, Szklo (2018) Elsevier (ISBN: 978-0-3235-5229-5).

-available as an electronic book (no purchase required) at the Health Sciences Library website  
<http://www.hslls.pitt.edu/resources/books/ebooks?s=Epidemiology>

**Office Hours:** (by Zoom meeting)

### **Instructor:**

Dr. Songer: Fridays, Zoom by appointment

### **Teaching Assistants:**

Alex Layden: Mondays, 1-2pm, Zoom link: <https://pitt.zoom.us/j/3430420099>

Joseph White: Tuesdays, 1-2pm, Zoom link: <https://pitt.zoom.us/j/2659134872>

Jessica Salerno: Wednesdays, 11am-12noon, Zoom link:

Wei-Hsin (Theresa) Hsiao: Wednesdays, 1-2pm, Zoom link: [https://pitt.zoom.us/j/942\\_0144\\_8802](https://pitt.zoom.us/j/942_0144_8802)

Yu-Hsuan (Amy) Lai: Thursdays, 2-3pm, Zoom link: <https://pitt.zoom.us/j/96809135213>

### **Course Website:**

All course materials can be accessed through the Canvas application used at the University of Pittsburgh (<http://canvas.pitt.edu>). Lecture material is organized on lecture-specific modules. Grades for the course will be maintained in the Canvas Grade book. All announcements related to the course will be posted using the Canvas announcement system. You will be expected to monitor Canvas regularly for these announcements. If changes occur in the course, they will be broadcast through this mechanism and during the synchronous lectures.

### **Academic Integrity:**

All students are expected to adhere to the school's standards of academic honesty. Cheating/plagiarism will not be tolerated. Any piece of individual work submitted by a student for evaluation must represent his/her own intellectual contribution and efforts.

The Graduate School of Public Health's policy on academic integrity, which is based on the University policy, is available online in the Pitt Public Health Academic Handbook (<http://www.publichealth.pitt.edu/home/academics/academic-requirements>). The policy includes obligations for faculty and students, procedures for adjudicating violations, and other critical information. Please take the time to read this policy.

Students committing acts of academic dishonesty, including plagiarism, collaboration on exams, cheating on in-class exams, misrepresentation of data, and facilitating dishonesty by others, will receive sanctions appropriate to the violation(s) committed. Sanctions include, but are not limited to, reduction of a grade for an assignment or exam, failure of an exam, and failure of the course.

All student violations of academic integrity will also be documented and forwarded to the Graduate School of Public Health Office of Student Affairs. If a sanction for a violation is agreed upon by the student and instructor, then the document of violation will be expunged from the student file upon the student's graduation. If the sanction proposed by the instructor is not agreed upon by the student, then the violation will be referred to the GSPH Academic Integrity Hearing Board, where a final decision on the violation will be rendered. However, the document of the academic violation and the final decision of the Hearing Board will remain in the student's permanent record.

### **Disability Resources and Services:**

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both Dr. Songer and Disability Resources and Services (DRS), 140 William Pitt Union, Phone: (412) 648-7890, [drsrecep@pitt.edu](mailto:drsrecep@pitt.edu), (412) 228-5347 for P3 ASL users, as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course. A comprehensive description of the services of that office can be obtained at <https://www.studentaffairs.pitt.edu/drs/>.

Students that require accommodations in the event of a building evacuation should e-mail the Office of Environmental Health and Safety (EHS) at [safety@ehs.pitt.edu](mailto:safety@ehs.pitt.edu) to request the development of an individualized evacuation plan. When finalized, you should also inform Dr. Songer of the proposed plan for an evacuation.

### **Posted Audio Recordings and Classroom Recording Policy:**

Audio recordings of the lectures are provided in Canvas under the respective lecture folders to assist students on course material that may be covered quickly. Note, the audio files pertain to lectures recorded in the fall of 2012. While the material in the recordings is similar to that presented this year, it will differ in some instances, as new material has been added. Be aware that you will be assessed on material as it is presented in the current year lectures.

Given that audio and Zoom video recordings are already provided for each lecture, and to ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor. Also, any properly approved recording can be used only for private use or for use by all other students enrolled in the class. Recordings may not be copied, distributed, published, or used in another fashion without the written consent of the instructor. A copy of any approved recording may also be requested by the instructor.

### **Sexual Misconduct, Required Reporting and Title IX Statement:**

The University is committed to combatting sexual misconduct. Faculty are required to report any instances of sexual misconduct, including harassment and sexual violence, to the University's Title IX office so that appropriate resources and support options may be provided. What this means is that as your professor, I am required to report any incidents of sexual misconduct that are directly reported to me, or of which I am made aware.

There are two important exceptions to this requirement where disclosures are not required to be reported to the University's Title IX office:

1. An exemption to reporting exists for a disclosure about sexual misconduct that is shared as part of an academic project, classroom discussion, or course assignment.
2. An exemption to reporting exists for disclosures made to designated university employees who can maintain confidentiality related to the care of students. These employees primarily include counselors and medical professionals. A list of employees who do not have the reporting responsibility can be found at <https://www.titleix.pitt.edu/report/confidentiality>.

If you are the victim of sexual misconduct, you may reach out to these resources; the Title IX Office, Phone: 412-648-7860, or the Office of Sexual Harassment and Assault Response and Education (SHARE), Phone: 412-648-7930 (8:30 a.m. to 5 p.m.; M-F) or 412-648-7856 (after business hours). If you have a safety concern, please contact the University of Pittsburgh Police, Phone: 412-624-2121.

### **Diversity Statement:**

The University of Pittsburgh Graduate School of Public Health considers the diversity of its students, faculty, and staff to be a strength and critical to its educational mission. Pitt Public Health is committed to creating and fostering inclusive learning environments that value human dignity and equity. Every member of our community is expected to be respectful of the individual perspectives, experiences, behaviors, worldviews, and backgrounds of others. While intellectual disagreement may be constructive, no derogatory statements, or demeaning or discriminatory behavior will be permitted.

If you feel uncomfortable or would like to discuss a situation, please contact any of the following:

- the primary course instructor or course director;
- the [Pitt Public Health Associate Dean responsible for diversity & inclusion](#)
- the University's Office of Diversity and Inclusion at 412-648-7860 or [www.diversity.pitt.edu/make-report/report-form](http://www.diversity.pitt.edu/make-report/report-form) (anonymous reporting form).



## Lecture, Exam, Assignment Schedule:

Date	Class Session Topic and Related Assessments
Aug 20	<p><b>Introduction &amp; Historical Overview of Epidemiology</b>            Reading: -Textbook (Gordis, 4<sup>th</sup> Ed., 5<sup>th</sup> Ed., or 6<sup>th</sup> Ed.): Chapter 1</p>
Aug 25	<p><b>Epidemiologic Approach to Disease I; Describing Patterns of Disease</b>            Reading: -Textbook (Gordis, 4<sup>th</sup> Ed.): Chapter 2 (pages 19-20, 29-32)            -Textbook (Gordis, 5<sup>th</sup> Ed. or 6<sup>th</sup> Ed. e-book): Chapter 2 (Introduction, Exploring Occurrence of Disease), Chapter 16 (Time Trends in Disease, Migrant Studies)            - World Health Organization. Final Report of the Commission on Social Determinants of Health. WHO, Geneva, 2008. Available at: <a href="https://www.who.int/social_determinants/thecommission/en/">https://www.who.int/social_determinants/thecommission/en/</a></p> <p>Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)            Lecture Quiz posted (due one week after lecture date at 11:59 pm)</p>
Aug 27	<p><b>Epidemiologic Approach to Disease II; Assessing Disease in Populations</b>            Reading: -Textbook (Gordis, 4<sup>th</sup> Ed.): Chapters 2, 6 (pages 20-22, 109-110)            -Textbook (Gordis, 5<sup>th</sup> Ed. or 6<sup>th</sup> Ed.): Chapter 2 (Clinical and Subclinical Disease), Chapter 6 (Introduction), Chapter 18 (Natural History of Disease, Pattern of Disease Progression)</p> <p>Recitation Assignment: 6:35-7:20 pm (due prior to class session)            Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)            Lecture Quiz posted (due one week after lecture date at 11:59 pm)</p>
Sept 1	<p><b>The Infectious Disease Process; The Dynamics of Disease Transmission</b>            Reading: -Textbook (Gordis, 4<sup>th</sup> Ed.): Chapter 2 (pages 19-20, 22, 26-27)            -Textbook (Gordis, 5<sup>th</sup> Ed. or 6<sup>th</sup> Ed.): Chapter 2 (Modes of Transmission, Incubation Period, Carrier Status)</p> <p>Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)            Lecture Quiz posted (due one week after lecture date at 11:59 pm)</p>
Sept 3	<p><b>The Prevention of Infectious Disease and Outbreak Investigation</b>            Reading: -Textbook (Gordis, 4<sup>th</sup> Ed.): Chapter 2 (pages 22-25, 27-28, 32-35)            -Textbook (Gordis, 5<sup>th</sup> Ed. or 6<sup>th</sup> Ed.): Chapter 2 (Endemic, Epidemic and Pandemic, Herd Immunity, Disease Outbreaks, Outbreak Investigation)</p> <p>Recitation Assignment: 6:35-7:20 pm (due prior to class session)            Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)            Lecture Quiz posted (due one week after lecture date at 11:59 pm)</p>
Sept 8	<p><b>Epidemiology in Practice; Outbreak Investigation</b>            Reading: -Textbook (Gordis, 4<sup>th</sup> Ed.): Chapter 2 (pages 28-29, 32-35)            -Textbook (Gordis, 5<sup>th</sup> Ed. or 6<sup>th</sup> Ed.): Chapter 2 (Attack Rate, Outbreak Investigation)            -Torok M. Epidemic Curves Ahead. <i>Focus on Field Epidemiology</i>, Vol 1(5):pgs. 1-6. North Carolina Institute for Public Health. Available at: <a href="https://nciph.sph.unc.edu/focus/vol1/issue5/1-5EpiCurves_issue.pdf">https://nciph.sph.unc.edu/focus/vol1/issue5/1-5EpiCurves_issue.pdf</a></p> <p>Homework Assignment given out (due September 14 at 11:59pm)</p>

Sept 10	<p><b>Epidemiologic Transition/Epidemiology in Global Contexts</b>  Reading: -Textbook (Gordis, 4<sup>th</sup> Ed.): Chapter 4 (pages 79-81)  -Textbook (Gordis, 5<sup>th</sup> Ed. or 6<sup>th</sup> Ed.): Chapter 4 (Projecting the Future Burden of Disease)  -Omran AR. The Epidemiologic Transition. Excerpted in <i>The Bulletin of the WHO</i>, 2001, 79(2).  Available at: <a href="http://ocw.uci.edu/upload/files/v79n2a11.pdf">http://ocw.uci.edu/upload/files/v79n2a11.pdf</a></p> <p>Recitation – Review for Exam: 6:35-7:20 pm  Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)  Lecture Quiz posted (due one week after lecture date at 11:59 pm)  Homework Assignment given out (due September 22 at 11:59pm)</p>
Sept 15	Exam 1
Sept 17	<p><b>Chronic Disease Epidemiology and Disease Causation</b>  Reading: -Textbook (Gordis, 4<sup>th</sup> Ed.): Chapters 14, 19 (pages 234-36, 333-335)  -Textbook (Gordis, 5<sup>th</sup> Ed., 6<sup>th</sup> Ed.): Chapter 14 (Types of Causal Relationships), Chapter 19 (Epidemiology and Prevention)</p> <p>Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)  Lecture Quiz posted (due one week after lecture date at 11:59 pm)</p>
Sept 22	<p><b>Identifying Disease in the Community; Surveillance</b>  Reading: -Textbook (Gordis, 4<sup>th</sup> Ed.): Chapters 3, 4 (pages 54-55, 70-73)  -Textbook (Gordis, 5<sup>th</sup> Ed., 6<sup>th</sup> Ed.): Chapter 3 (Surveillance, Active and Passive surveillance), Chapter 4 (Problems with Mortality Data)</p> <p>Recitation Assignment: 6:35-7:20 pm (due prior to class session)  Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)  Lecture Quiz posted (due one week after lecture date at 11:59 pm)</p>
Sept 24	<p><b>Measures of Disease Frequency; Incidence, Prevalence</b>  Reading: -Textbook (Gordis, 4<sup>th</sup> Ed., 5<sup>th</sup> Ed., or 6<sup>th</sup> Ed.): Chapter 3</p> <p>Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)  Lecture Quiz posted (due one week after lecture date at 11:59 pm)</p>
Sept 29	<p><b>Measures of Disease Frequency; Mortality</b>  Reading: -Textbook (Gordis, 4<sup>th</sup> Ed.): Chapters 4, 6 (pages 59-73, 109-13)  -Textbook (Gordis, 5<sup>th</sup> Ed., 6<sup>th</sup> Ed.): Chap. 4 (Measures of Mortality), Chap. 6 (Case Fatal, Person Years)</p> <p>Recitation Assignment: 6:35-7:20 pm (due prior to class session)  Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)  Lecture Quiz posted (due one week after lecture date at 11:59 pm)</p>
Oct 1	<p><b>Measures of Disease Frequency; Standardization/Age Adjustment</b>  Reading: -Textbook (Gordis, 4<sup>th</sup> Ed.): Chapter 4 (pages 73-79)  -Textbook (Gordis, 5<sup>th</sup> Ed., 6<sup>th</sup> Ed.): Chapter 4 (Comparing Mortality in Different Populations)</p> <p>Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)  Lecture Quiz posted (due one week after lecture date at 11:59 pm)  Homework Assignment given out (due October 6 at 11:59pm)</p>

Oct 6	<p><b>Measures of Health Outcomes; Clinical Measures of Prognosis</b></p> <p>Reading: -Textbook (Gordis, 4<sup>th</sup> Ed.): Chapters 6, 17 (pages 112-124, 293-299)          -Textbook (Gordis, 5<sup>th</sup> Ed. or 6<sup>th</sup> Ed.): Chapter 6 (Five Year Survival, Observed Survival, Kaplan-Meier)          -Textbook (Gordis, 5<sup>th</sup> Ed. or 6<sup>th</sup> Ed.): Chapter 17 (Studies of Outcome, Efficacy, Effectiveness, Efficiency, Measures of Outcome, Outcomes Research)</p> <p>Recitation – Review for Exam: 6:35-7:20 pm</p>
Oct 8	Exam 2
Oct 13	<p><b>Analytical Epidemiology; Hypotheses, Research Designs and Sequence          - Descriptive Designs, Ecologic Designs</b></p> <p>Reading: -Textbook (Gordis, 4<sup>th</sup> Ed.): (pages 165-66), Chapter 14 (pages 227-30)          -Textbook (Gordis, 5<sup>th</sup> Ed.): Chapter 10 (Ecologic Studies) Chapter 14 (Approaches for Studying Disease Etiology)          -Textbook (Gordis, 6<sup>th</sup> Ed.): Chapter 7 (Case Reports and Case Series, Ecologic Studies), Chapter 14 (Approaches for Studying Disease Etiology)          -Farrugia P, Petrisor BA, Farrokhyar F, et al. Research questions, hypotheses, and objectives. <i>Can J Surgery</i> 53(4):278-281, 2010. Available at: <a href="http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2912019/">http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2912019/</a></p> <p>Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)          Lecture Quiz posted (due one week after lecture date at 11:59 pm)</p>
Oct 15	<p><b>Analytical Epidemiology; Cross-Sectional/Case-Control Designs</b></p> <p>Reading: -Textbook (Gordis, 4<sup>th</sup> Ed.): Chapter 10 (pages 195-98, 177-95)          -Textbook (Gordis, 5<sup>th</sup> Ed.): Chapter 10 (Case-Control Studies, Cross-Sectional Studies)          -Textbook (Gordis, 6<sup>th</sup> Ed.): Chapter 7 (Cross-Sectional Studies, Case-Control Studies)</p> <p>Recitation Assignment: 6:35-7:20 pm (due prior to class session)          Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)          Lecture Quiz posted (due one week after lecture date at 11:59 pm)</p>
Oct 20	<p><b>Analytical Epidemiology; Case-Crossover/Cohort Designs</b></p> <p>Reading: -Textbook (Gordis, 4<sup>th</sup> Ed.): Chapter 9          -Textbook (Gordis, 5<sup>th</sup> Ed.): Chapter 9, Chapter 10 (Case-Crossover Design)          -Textbook (Gordis, 6<sup>th</sup> Ed.): Chapter 7 (Case-Crossover Design), Chapter 8</p> <p>Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)          Lecture Quiz posted (due one week after lecture date at 11:59 pm)</p>
Oct 22	<p><b>Analytical Epidemiology; Randomized Clinical Trials</b></p> <p>Reading: -Textbook (Gordis, 4<sup>th</sup> Ed.): Chapter 7          -Textbook (Gordis, 5<sup>th</sup> Ed.): Chapter 7, Chapter 8 (Ethical Considerations)          -Textbook (Gordis, 6<sup>th</sup> Ed.): Chapter 10, Chapter 11 (Ethical Considerations)</p> <p>Recitation Assignment: 6:35-7:20 pm (due prior to class session)          Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)          Lecture Quiz posted (due one week after lecture date at 11:59 pm)</p>

Oct 27	<p><b>Measures of Disease Association; Relative risk, Odds ratio</b>  Reading: -Textbook (Gordis, 4<sup>th</sup> Ed. or 5<sup>th</sup> Ed.): Chapter 11, (Gordis, 6<sup>th</sup> Ed.): Chapter 12</p> <p>Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)  Lecture Quiz posted (due one week after lecture date at 11:59 pm)  Homework Assignment given out (due November 3 at 11:59pm)</p>
Oct 29	<p><b>Error in Epidemiologic Studies I; Chance, Bias</b>  Reading: -Textbook (Gordis, 4<sup>th</sup> Ed.): Chapters 8, 10, 15 (pages 147-52, 187-88, 247-251)  -Textbook (Gordis, 5<sup>th</sup> Ed.): Chapter 8 (Sample Size, Generalizability of Results), Chapter 10 (Potential Biases in Case Control Studies), Chapter 15 (Bias)  -Textbook (Gordis, 6<sup>th</sup> Ed.): Chapter 7 (Potential Biases in Case Control Studies), Chapter 11 (Sample Size, Generalizability of Results), Chapter 15 (Bias)</p> <p>Recitation Assignment: 6:35-7:20 pm (due prior to class session)  Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)  Lecture Quiz posted (due one week after lecture date at 11:59 pm)</p>
Nov 3 (remote only)	<p><b>Error in Epidemiologic Studies II; Confounding, effect modification, Exam review</b>  Reading: -Textbook (Gordis, 4<sup>th</sup> Ed.): Chapters 14, 15 (pages 230-34, 251-261)  -Textbook (Gordis, 5<sup>th</sup> Ed., 6<sup>th</sup> Ed.): Chapter 14 (Types of Associations), Chapter 15 (Confounding, Interaction)</p> <p>Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)  Lecture Quiz posted (due one week after lecture date at 11:59 pm)</p>
Nov 5	Exam 3
Nov 10	<p><b>Assessing the Quality of Epidemiologic Research</b>  Reading: -Vance DE, Talley M, Azuero A, et al. Conducting an Article Critique for a Quantitative Research Study. <i>Nursing: Research and Reviews</i> 3:67-75, 2013</p> <p>Homework Assignment given out (due back November 24 at 11:59pm)</p>
Nov 12	<p><b>Practice on Interpreting Epidemiologic Results</b></p> <p>Recitation Assignment: 6:35-7:20 pm (due prior to class session)  Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)  Lecture Quiz posted (due one week after lecture date at 11:59 pm)</p>
Nov 17	<p><b>Inference from Epidemiologic Studies</b>  <b>Measures of Effect; Assessing Public Health Impact</b>  Reading: -Textbook (Gordis, 4<sup>th</sup> Ed.): Chapter 12, Chapter 14 (pages 236-45)  -Textbook (Gordis, 5<sup>th</sup> Ed.): Chapter 8 (Expressing the Results of RCTs), Chapter 12, Chapter 14 (Evidence for a Causal Relationship)  -Textbook (Gordis, 5<sup>th</sup> Ed.): Chapter 11 (Expressing the Results of RCTs), Chapter 13, Chapter 14 (Evidence for a Causal Relationship)</p> <p>Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)  Lecture Quiz posted (due one week after lecture date at 11:59 pm)</p>

Nov 19	<p><b>Epidemiology in Practice; Population Screening and its Evaluation</b>  Reading: -Textbook (Gordis, 4<sup>th</sup> Ed., 5<sup>th</sup> Ed., or 6<sup>th</sup> Ed.): Chapter 5, 18</p> <p>Recitation Assignment: 6:35-7:20 pm (due prior to class session)  Assigned Lecture Questions posted (due one week after lecture date at 11:59pm)  Lecture Quiz posted (due one week after lecture date at 11:59 pm)</p>
Nov 24	<p><b>Genetic Epidemiology</b>  Reading: -Textbook (Gordis, 4<sup>th</sup> Ed., 5<sup>th</sup> Ed., or 6<sup>th</sup> Ed.): Chapter 16</p>
Nov 26	Thanksgiving Break (no class)
Dec 1	<p><b>Ethics in Epidemiology</b>  Reading: -Textbook (Gordis, 4<sup>th</sup> Ed., 5<sup>th</sup> Ed., or 6<sup>th</sup> Ed.): Chapter 20</p> <p>Recitation – Review for Exam: 6:35-7:20 pm</p>
Dec 3	Final Exam