

The Master of Population Health Sciences

M19-501

INTRODUCTORY CLINICAL EPIDEMIOLOGY

Fall 1 (8/30/2016 to 10/20/2016)

Time: Tuesdays & Thursdays, 9 am to noon

Venue: Doll and Hill Teaching Room, 600 S. Taylor Avenue, except on 9/22 and 9/24 (Richmond Room).

INSTRUCTOR

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GUEST SPEAKERS

Jean Wang, MD

Yikyung Park, PhD

Siobhan Sutcliffe, ScD

Faisal Khan, MD, MPH

COURSE DESCRIPTION & OBJECTIVES

The first course in the Epidemiology series, this course introduces the basic principles and methods of epidemiology, with an emphasis on critical thinking, analytic skills, and application to clinical practice and research. Class time will include lectures, group problem solving, article critiques and class discussion. Designed for those with a clinical background, the course will provide tools for critically evaluating the literature and skills to practice evidence-based medicine.

COMPETENCIES

- Describe a public health problem in terms of magnitude, person, time and place.
- Explain the importance of epidemiology for informing scientific, ethical, economic and political discussion of health issues.
- Apply the basic terminology and definitions of epidemiology.
- Calculate basic epidemiology measures.
- Communicate epidemiologic information to lay and professional audiences.
- Draw appropriate inferences from epidemiologic data.
- Evaluate the strengths and limitations of epidemiologic reports.

COURSE EXPECTATIONS

The instructors will prepare and deliver course material; be available to students during and after class and by appointment; and provide clear, timely feedback on student performance. The instructors retain the right to change the content and order of the lectures and exercises to meet the needs of the students who are enrolled in the course.

The instructors expect the students to:

- Attend each class;
- Complete all assignments in a timely manner;
- Come to class on-time, prepared, and having read all assignments;
- Participate in class discussions;
- Seek any necessary clarification regarding course expectations; and
- Provide feedback on the effectiveness of the course.

Any issues with attendance, meeting deadlines, or completion of assignments should be discussed promptly with the instructor. Email is the best mode of contact.

CLASSROOM ETIQUETTE

- Please turn all cell phones and pagers to silent or vibrate
- If you need to answer a call or page, please leave the room quietly to do so
- Do not use the internet, social media sites, BJC clinical sites or check email during class time
- There will be one or two 10-15 minute break(s) during each class session

COURSE EVALUATION

Students will be evaluated on the basis of their class participation, exams, article critiques, in-class problem sets and final projects.

1. **Participation (10%):** The participation portion of your grade is based upon regular and timely attendance, as well as active, meaningful contributions to class discussion, participation when other students are presenting article critiques and during in-class exercises. Frequency: **each class**.
2. **Article critique (10%):** For this assignment, you will critique one peer-reviewed journal article from a list provided and lead class discussion. Two students will work together and lead class discussion on one article (about 20 minutes, using PowerPoint presentation). Students are expected to discuss and criticize the article within the context of the day's topic, emphasizing the epidemiological principle addressed in class for the day. After the presentation, each student will separately provide a summary and written critique of the article (1-2 pages) within 48 hours. Other students are also expected to read the articles not assigned to them and participate actively in discussing the articles. Articles are available on PubMed. Failure to submit the written critique within 48hrs will lead to loss of points. Additional details will be posted on Blackboard. Frequency: **one time**.

3. **In-class problem sets (20%):** For this exercise, you will work in groups to complete problem sets. Problems will be based on information from lectures, the text, and supplemental readings as assigned for that class. Frequency: **each class**.
4. **Final project (10%)** – Students will apply information learned during the course and work in pairs to design epidemiological studies of their choice. Each pair will give a 20-minute PowerPoint presentation to the class.
5. **Exams (50%):** There will be two exams: a mid-term (20%) and final exam (30%). Exams will be cumulative and cover material from lecture and required readings. Frequency: **two exams**.

Additional Information for Problem Sets and Final Exam: Students with a scheduling conflict or in need of special accommodations must notify the instructor in advance. If you are unable to notify the instructor in advance, you must notify the instructor as soon as possible by email.

The final exam will be closed book and closed notes. **Students will be allowed to bring into the exam with them a single sheet of paper with formulae. This sheet may be hand- or type-written.** No additional supplemental sources of information (phone, internet) are allowed during the examination periods. The instructors will be present and available to answer any questions during the examination period.

Calculators are needed for use during the quiz and exam. Mobile phones are not allowed during exams. Use of a mobile phone during an exam for any other purpose will be considered academic misconduct.

Grading scale:

A	A-	B+	B	B-	C	C	C-	F
94-100	90-93	88-89	84-87	80-83	78-79	74-77	70-73	<70

Policy on Absences: Absences must receive prior approval from the instructor, and in the case that an absence coincides with a students' scheduled day to lead discussion or present, arrangements must be made with classmates to swap dates. The instructor will allow for documented family emergencies.

REQUIRED TEXTBOOK

Gordis L. *Epidemiology*, 5th Ed. 2013. Philadelphia, PA: Saunders-Elsevier. ISBN: 978-1-4557-3733-8.

RECOMMENDED TEXTBOOK

Porta M. *A dictionary of Epidemiology*, 6th Ed. 2014

SUPPLEMENTAL REQUIRED READINGS

Articles have been selected to complement the readings from the primary textbook. Links to articles will be provided in class and posted on Blackboard.

COURSE SCHEDULE¹⁻²

Date	Topics	Readings²
8/30	Introductions and course overview History and scope of epidemiology	Gordis: Ch. 1
9/1	Fundamental concepts in epidemiology I: Measures of disease occurrence <ul style="list-style-type: none"> • Prevalence • Incidence 	Gordis: Chs. 3,4 Article as assigned
9/6	Fundamental concepts in epidemiology II: Measures of effect and potential impact <ul style="list-style-type: none"> • Absolute • Relative 	Gordis: Chs. 11 & 12 Article as assigned Quiz
9/8	Standardization	Gordis: Ch. Article as assigned Quiz
9/13	Screening	Gordis: Chs. 5 & 18 Article as assigned Quiz
9/15	Design and planning of epidemiological studies	Article as assigned
9/20	Causal inference	Gordis: Ch. 14 Article as assigned Quiz
9/22	MID-TERM EXAM	
9/27	Case-control studies Other study designs (Cross-sectional ecological etc.)	Gordis: Ch. 10 Article as assigned Quiz
9/29	Cohort studies	Gordis: Ch. 9 Article as assigned Quiz
10/4	Experimental study designs	Gordis: Chs. 7 & 8 Article as assigned Quiz
10/6	Validity in epidemiological studies I Bias	Gordis: Ch. 15 Article as assigned Quiz
10/11	Validity in epidemiological studies II Confounding Effect modification	Gordis: Ch. 15 Article as assigned Quiz
10/13	Epidemiology in practice: Investigating a cancer cluster	
10/18	Final presentations	
10/20	FINAL EXAM	

1) For each class meeting, except for the first two days of class and unless otherwise noted as a presentation or exam date, the class period will be split into three: the first period will consist of lectures, the second period will consist of group problem solving and the third period will be devoted to article discussion and synthesis.

2) Articles will be assigned for student-led critique and class discussion, as listed on the Blackboard site.

ACADEMIC HONESTY

Students are expected to complete the problem sets, article critique, final projects and exams in accordance with Washington University in St. Louis' academic rules and regulations regarding honesty and integrity. Any evidence of academic misconduct, including **cheating, failure to cite sources, and/or plagiarism** will result in appropriate action as dictated by Washington University in St. Louis. Violations of academic honesty will result in notification to the Associate Dean of Academic Affairs at the Washington University School of Medicine, as well as the to MPHS Director, Assistant Director(s), and Program Committee. Any hint of violation during an examination or in a written assignment will result in no grade for the exam/assignment. For more information see the [University's Student Academic Integrity Policy](#).

SPECIAL NEEDS

Per University policy, students with learning, sensory, or physical disability or other impairment should contact the Washington University Center for Advanced Learning Disability Resources (DR) at 314-935-4062 or visit <http://disability.wustl.edu/DisabilityResources.aspx>. The DR Office is located in Cornerstone on the Danforth Campus.

Students whose second language is English and/or those in need of assistance in lectures, reading or writing assignments, and/or testing, should contact the University Writing Center at 314-935-4981 or visit <https://writingcenter.wustl.edu/>.

BLACKBOARD

We will use Blackboard to manage our class, access assignment instructions and problem sets, post course-related questions and submit written assignments. Blackboard can be accessed at <https://bb.wustl.edu>. Login with your WUSTLKey and Introduction to Epidemiology should appear on the homepage.

- All updates of the Syllabus will be posted on Blackboard and mentioned at the beginning of the next Class Session.
- Important updates and reminders will be posted in the Announcements section on Blackboard.
- Lecture notes will be posted on Blackboard. Additional readings and assignment instructions will be posted on Blackboard throughout the semester.

We may utilize the Discussion threads for general questions related to lectures and assignments. Students should post all general questions that may be relevant to others in class to the Discussion thread. **Student-specific questions (e.g. related to a grade or exam conflict) should be emailed directly to the instructors.** Every effort will be made to answer student emails within 48-hours (excluding weekends). **Students are encouraged to post materials related to class (e.g. link to a news story) on Blackboard for the rest of the class to access.**