

**Course Title:** Principles & Methods of Epidemiology

**Course Number:** PHCO 0502

**Course Prerequisite(s):** None

**Course Location:** Piscataway, School of Public Health, Room 1A/B

**Course Date & Time:** Tuesday, 6:00 PM – 8:00 PM

**Course Instructor:** **Gerald Harris, PhD, Supervising Research Scientist, CINJ**  
[gaharris@rutgers.edu](mailto:gaharris@rutgers.edu) 732-235-4019 (New Brunswick)

**Office Hours:** Before class; otherwise by appointment

**Course Assistant:** Jie Li ([ljru@cinj.rutgers.edu](mailto:ljru@cinj.rutgers.edu)); by appointment, Thursdays after 5

**Course Website:** [canvas.rutgers.edu](http://canvas.rutgers.edu)

**Required Course Text:** Friis & Sellers, Epidemiology for Public Health Practice, 5<sup>th</sup> Edition

**Additional/Supplemental Readings/Resources:** Readings and videos posted to Canvas.

**Course Description:** This course introduces students to the study of disease and ill health through their patterns of occurrence in human populations. The approaches of epidemiology in estimating the burden of disease, in making inferences about cause of disease, and in evaluating primary, secondary, and tertiary prevention strategies are presented.

**Competencies Addressed:** The competencies addressed in this course include:

- A. Explain public health history, philosophy, and values;
- B. List major causes and trends of morbidity and mortality in the US or other community relevant to the school or program;
- C. Discuss the science of primary, secondary, and tertiary prevention in population health, including health promotion, screening, etc.;
- D. Explain the critical importance of evidence in advancing public health knowledge;
- E. Apply epidemiological methods to the breadth of settings and situations in public health practice;
- F. Identify key sources of data for epidemiologic purposes, such as vital statistics and disease registries; and
- G. Recognize specific features of different study designs and identify their respective strengths and weaknesses.

**Course Objectives:** By the completion of this course, students will be able to:

- a. Explain the basic concepts of descriptive and analytical epidemiology.
- b. Discuss uses and applications of epidemiology.
- c. Define the influence of population dynamics on community health.
- d. Identify an epidemiologic study design by its description.
- e. List the main characteristics, advantages, and disadvantages of epidemiologic studies.
- f. Apply the criteria used to assess a causal association.

- g. Calculate appropriate epidemiologic measures based upon the study design.

Competency	Course Objectives	Lessons	Assessment(s)
A	b	1, 2	Quiz 1; Midterm; Final
B	c, g	3	Quiz 2; Midterm; Project
C	b, g	2, 11	Quiz 1,7; Midterm
D	a, b, f	2, 5, 6	Quiz 1,4,5; Midterm; Final
E	b, e, f, g	7, 9, 10, 11	Quiz 6,7; Project; Final
F	a, c, g	4	Quiz 3; Midterm
G	d, e, g	5, 6, 7, 9, 10, 11	Quizzes 4-7; Project; Final

**Course Requirements and Grading:** This course will strictly adhere to School of Public Health Honor Code (See the attached policy statement at the end of this syllabus)

- Final course grades will be based on the following:
  - Attendance & Participation 10%
  - Web Quizzes 20%
  - Midterm Examination 25%
  - Presentation 20%
  - Final Examination 25%
  
- Attendance & Participation: Students are expected to attend class in person on Tuesdays from 6 – 8 pm, as well as complete up to 30 minutes of additional web-based activities such as videos or graded discussions. Active participation in both lecture and web-based activities is required. Unless otherwise noted, the following 3-point rubric will be used to assess graded discussions:
  - Provocative (3/3) – Response goes beyond simply answering the prompt, attempts to stimulate further thought and discussion, is relevant to epidemiology and concepts learned in class, and is respectful of others’ posts.
  - Substantial (2/3) – Response adequately answers the prompt but does not stimulate further analysis/discussion of the subject, is somewhat relevant to epidemiology and concepts learned in class and is respectful of others’ posts.
  - Superficial (1/3) – Response provides obvious information without further analysis of the concept, lacks depth of knowledge or reasoning, or has very little relevance to epidemiology and concepts learned in class.
  - None (0/3) – Response is not complete or is not respectful of others’ posts.
  
- Quizzes will be given approximately weekly throughout the semester on Canvas. Quizzes are open-book/note and untimed but must be completed by the designated due date/time. Except where noted otherwise, quizzes will be made available on Canvas after class each Wednesday and will be due before class the following week. The lowest quiz grade will be dropped. Late submission will result in the following deductions:

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- 25% automatic deduction if submitted within 24 hours following the due date/time.
- 50% automatic deduction if submitted within 48 hours following the due date/time.
- Homework will not be accepted after 48 hours following the due date/time.
- Presentation topic ideas will be due prior to the midterm. A sign-up sheet will be distributed for groups to indicate their topic and sign-up for a presentations date. Groups will be expected to prepare a brief (10 – 12 minute) presentation. Details will be provided on Canvas and in class.
- Midterm and Final Examinations will be given in class and require only a pen or pencil and simple calculator. Cell phones, smart phones, tablets, laptops, or other electronic devices will NOT be permitted.

Grades Point Allocation:

94 – 100	A
90 – <94	A-
87 – <90	B+
84 – <87	B
80 – <84	B-
77 – <80	C+
70 – <77	C
<70	F

Please note that grades are calculated based on total number of points accrued and **are not rounded**.

**Course Schedule:** Below is a preliminary course schedule. This schedule may be subject to change during the semester. **Updates to this schedule and additional activities, readings, assignments, and discussions will be communicated via Canvas.**

Wk	Date	Topics & Activities	Online 30	Readings	Quiz
1	Jan 21	What is epidemiology?	TBD	--	--
2	Jan 28	Intro to epidemiology		Ch. 1, 2	1
3	Feb 4	Morbidity & mortality Descriptive epidemiology		Ch. 3, 4	2
4	Feb 11	Sources of data		Ch. 5	3
5	Feb 18	Study designs		Ch. 6-8	4
6	Feb 25	Measures of effect Data interpretation issues		Ch. 9, 10	5
7	Mar 3	Screening for diseases in the community Presentation topics due		Ch. 11	--
8	Mar 10	Mid-term examination		--	--
--	Mar 17	Spring Break!!			
9	Mar 24	Infectious disease epidemiology		Ch. 12	6

10	Mar 31	Cancer epidemiology		--	--
11	Apr 7	Epi aspects of work in the environment Social, behavioral, and psychosocial epi Presentations due on Canvas		Ch. 13, 15	7
12	Apr 14	Student presentations			
13	Apr 21	Student presentations			
14	Apr 28	Student presentations			
	May 5	Reading day			
	May 12	Final Exam			

TBD = To Be Determined

**Learning Management System:** Canvas will be used extensively throughout the semester for course syllabus, assignments, announcements, communication and/or other course-related activities. It is the student's responsibility to familiarize themselves with Canvas and check it regularly. If you have difficulties accessing Canvas, please inform the instructor and Canvas Support ([help@canvas.rutgers.edu](mailto:help@canvas.rutgers.edu)). Canvas is accessible at [canvas.rutgers.edu](https://canvas.rutgers.edu).

**School of Public Health Honor Code:** The School of Public Health Honor Code is found in the School Catalog ([sph.rutgers.edu/academics/catalog.html](https://sph.rutgers.edu/academics/catalog.html)). Each student bears a fundamental responsibility for maintaining academic integrity and intellectual honesty in his or her graduate work. For example, all students are expected to observe the generally accepted principles of scholarly work, to submit their own rather than another's work, to refrain from falsifying data, and to refrain from receiving and/or giving aid on examinations or other assigned work requiring independent effort. In submitting written material, the writer takes full responsibility for the work as a whole and implies that, except as properly noted by use of quotation marks, footnotes, etc., both the ideas and the works used are his or her own. In addition to maintaining personal academic integrity, each student is expected to contribute to the academic integrity of the School community by not facilitating inappropriate use of her/his own work by others and by reporting acts of academic dishonesty by others to an appropriate school authority. It should be clearly understood that plagiarism, cheating, or other forms of academic dishonesty will not be tolerated and can lead to sanctions up to and including separation from the Rutgers School of Public Health.

**Students with Disabilities:** Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student must Apply for Services by first completing a Registration Form with the Rutgers Office of Disability Services (ODS) at [ods.rutgers.edu](https://ods.rutgers.edu). The student will also be required to participate in an ODS intake interview and provide documentation. If reasonable accommodations are granted, ODS will provide you with a Letter of Accommodations which should be shared with your instructors as early in your courses as possible.

**Graduate Student Computer Policy:** Students are required to possess a personal laptop, no older than approximately two years, that must meet minimum requirements which may be found online at: [sph.rutgers.edu/student-life/computer-support.html](https://sph.rutgers.edu/student-life/computer-support.html).

**Policy Concerning Use of Recording Devices and Other Electronic Communications Systems:** When personally owned communication/recording devices are used by students to record lectures and/or classroom lessons, such use must be authorized by the faculty member or instructor who must give either oral or written permission prior to the start of the semester and identify restrictions, if any, on the use of mobile communications or recording devices.

**Policy Concerning Use of Turnitin:** Students agree that by taking this course all required papers may be subject to submission for textual similarity review to Turnitin.com (directly or via learning management

system, i.e. Canvas) for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Usage Policy posted on the Turnitin.com site. Students who do not agree should contact the course instructor immediately.

**Withdrawal/Refund Schedule:** Students who stop attending their course(s) without submitting a completed [Add/Drop Course](#) form will receive a failing grade. Furthermore, students dropping to zero credits for the semester are considered withdrawn and must submit a completed [Leave of Absence](#) form from the School of Public Health's Office of Student Affairs. The School of Public Health refunds tuition only. Administrative and technology fees are non-refundable. You may find the Withdrawal/Refund Schedule on the School of Public Health website at: [sph.rutgers.edu/academics/school-calendar.html](http://sph.rutgers.edu/academics/school-calendar.html)