

# Principles and Methods of Epidemiology PHCO 0502

## COURSE BASICS

**Course Prerequisite(s):** Passed the Quantitative Skills Assessment or add “None”

**Course Instructor:** *Nicole Jones, MPH*

**Contact Information:** [nkj20@sph.rutgers.edu](mailto:nkj20@sph.rutgers.edu) or [jones.nicolek20@gmail.com](mailto:jones.nicolek20@gmail.com)

**Office Hours:** *Following class, Thursday 5:00 pm - 7:00 pm and by appointment*

**Course Website:** Access course via [canvas.rutgers.edu](https://canvas.rutgers.edu) ([Links to an external site.](#)) using NetId and Password

**Required Course Textbook:** *Friis & Sellers, Epidemiology for Public Health Practice, 6th Edition* [Available digitally through Rutgers Libraries \(Links to an external site.\)](#)

**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.*

## COURSE COMPETENCIES

### Competencies Addressed:

The competencies addressed in this course include:

- 1 Explain public health history, philosophy, and values
- 2 List Major Causes and trends of morbidity and mortality in the United States and New Jersey.
- 3 Discuss the science of primary, secondary, and tertiary prevention in population health, including health promotion and screening.
- 4. Explain the critical importance of evidence in advancing public health knowledge.
- 5 Apply epidemiological methods to the breadth of settings and situations in public health practice.
- 6 identify key sources of data for epidemiologic purposes, such as vital statistics and disease registries.
- 7 Recognize specific features of different study designs and identify their respective strengths and weaknesses.

Please visit the Concentration webpages on the School of Public Health’s website at [sph.rutgers.edu](https://sph.rutgers.edu) for more information about the curriculum and competencies for our degrees and concentrations.

## 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.

This table lists the competencies, course objectives and when and how they will be assessed.

Competency	Objectives	Week	Assessments
1	B	1, 2	Quiz 1; Exams
2	C, G	3	Quiz 2; Exams
3	B, G	2, 12	Quiz 1, 7; Project 1, Exams
4	A, B, F	2, 5, 6	Quiz 1, 4, 5; Project 2
5	B, E, F, G	8, 10, 11, 12	Quiz 6, 7; Projects; Exams
6	A, C, G	4, 10 12	Quiz 3; Exams
7	D, E, G	5, 6, 8, 10, 11, 12	Quizzes 4-7; Project 2; Exams

# COURSE REQUIREMENTS

## Course Requirements and Grading:

This table contain required activities and their grade value

ACTIVITY	GRADE VALUE
<p>Quizzes: Ten quizzes will be given throughout the semester on Canvas. Quizzes are open-book/note and untimed but must be completed by the designated due date/time. The quizzes are designed for students to maintain a rhythm with class work and for instructors to assess students understanding of class material. Except where noted otherwise, quizzes will be made available on Canvas after class each Friday and will be due before class the following week. Each quiz will have a total of 10 points and the lowest quiz grades will be dropped. <u>Late submission will result in 0 points.</u></p>	20%
<p>Class Project 2:</p> <p><b>Conceptual Framework</b></p> <p>A conceptual framework is used to outline possible courses of action or to present a preferred approach to an idea or thought. In epidemiological research, conceptual frameworks are useful to think about potential factors related to an exposure-outcome association. In the class project, we will establish a conceptual framework for a particular association. The “concepts” are risk factors for a disease or confounders in associations. The project will be divided in four parts corresponding to concepts learned in class. Each part will have a different deadline.</p>	30%
<p>Midterm: Exams will be taken during class time at the regularly assigned class time. Students will have the entire class time to complete the exams. Exam format will be detailed early in the semester.</p>	20%
<p>Final: Exams will be taken during class time at the regularly assigned class time. Students will have the entire class time to complete the exams. Exam format will be detailed early in the semester.</p>	20%
<p>Attendance and Participation:</p> <ol style="list-style-type: none"> <li>1. Students are expected to attend class in person on Fridays from 12:30-2:30 pm, as well as complete up to 30-minutes of additional web-based activities. Active participation in both lecture and web-based activities is required. Participation should focus on <u>quality</u> versus quantity. For maximum points, students should do the following:             <ol style="list-style-type: none"> <li>1. Maximize attendance</li> <li>2. Lead or significantly contribute to discussions in class or through Canvas.</li> </ol> </li> </ol>	10%

3. Complete class course mid- and final evaluations	
	100%

### **Grading Policy (%)\***

This table contains numerical and letter grades

<b>Numeric Value</b>	<b>Letter Value</b>
94 -100	A
90 - <94	A-
87 - <90	B+
84 - <87	B
80 - <84	B-
77 - <80	C+
70 - <77	C
<70	F

\*Grades will not be rounded.

### **COURSE SCHEDULE**

This table list the topics, assessments and the competencies linked to them

<b>WEEK/MODULE</b>	<b>Date</b>	<b>TOPIC</b>	<b>READINGS</b>	<b>ASSIGNMENTS/ASSESSMENTS</b>
1	1/18	Introduction to Epidemiology and History of Epidemiology	Ch 1	Quiz 1; Online-30: Introductions
2	1/25	Practical Epidemiological Applications	Ch2	Quiz 2; Online-30: Population Pyramids
3	2/1	Measures of Morbidity and Mortality Used in Epidemiology	Ch 3	Quiz 3; Online-30: Gender & Health
4	2/8	Descriptive Epidemiology and Data Sources	Ch 4 & 5	Quiz 4; Online-30: Population Dynamics

5	2/15	Study Designs: Ecologic, Cross- Sectional, Case- Control	Ch 6	Quiz 5; Online-30: NHIS, Class
6	2/22	Study Designs: Cohort Studies and Experimental Studies	Ch 7 & 8	Quiz 6; Online-30 Prepare for Midterm  Project: Part 1
7	3/1	Midterm Examination	Chapter 1-8 Lectures 1-6	
8	3/8	Causal Inference and Measures of Effect	Ch 9	Quiz 7, Online-30: Causal Inference
SPRING BREAK	3/15	SPRING BREAK		
9	3/22	Interpreting Data	Ch 10	Quiz 8, Online-30: Confounders, Class Project: Part 2 (DUE 3/26)
10	3/29	Screening Tests	Ch 11	Quiz 9; Online-30: Data Interpretation
11	4/5	Special Topics: Social Epidemiology	Ch 12, 14	Quiz 10; Online-30: TBD  Class Project: Part 3
12	4/12	Special Topics: Perinatal Epidemiology	Ch 13, 15	No Quiz or Online-30 work
13	4/19	Class Project Presentations		Prepare for Final
14	4/26	Final Exam Prep		Prepare for Final
15	5/3	Final Examination	Chapters 9- 15 Lectures 9-14	

## ASSIGNMENT STANDARDS

**Lateness.** Assignments turned in after the official collection period are considered late. Unless the instructor and student come to an arrangement at least one week before class, there is an 25 point penalty for written work turned in late. Assignments are posted to Canvas by the due date. If you need to turn in something after the date due, please discuss it with the instructor to avoid point penalty.

**Citations.** Preferred citation style for references in written assignments will be American Psychological Association (APA). Please use this APA citation style for electronic references.

**Margins and Page Limits Requirements.** Refer to each assignment instructions for margins and page limit requirements. A deduction of 10% will occur if assignment over the maximum page limit. Instructions available on Canvas.

## SCHOOL POLICIES

**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@oit.rutgers.edu](mailto:help@oit.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.

**Commitment to Safe Learning Environment:** The Rutgers School of Public Health is committed to helping create a safe learning environment for all students and for the School as a whole. Free expression in an academic community is essential to the mission of providing the highest caliber of education possible. The School encourages civil discourse, reasoned thought, sustained discussion, and constructive engagement. Provocative ideas respectfully presented are an expected result. An enlightened academic community, however, connects freedom with responsibility. The School encourages all students to disclose any situations where you may feel unsafe, discriminated against, or harassed. Harassment or discrimination of any kind will be not tolerated and violations may lead to disciplinary actions.

**Student Well-Being:** The School of Public Health recognizes that students may experience stressors or challenges that can impact both their academic experience and their personal well-being. If the source of your stressors or challenges is academic, students are encouraged to discuss these challenges and circumstances with their instructor, if they feel they may need additional support or temporary accommodations at the beginning or during this course. The course instructor may consider making reasonable temporary adjustments depending on the student's situation. For personal concerns or if additional support is needed, students may reach out to the [Office of Student Affairs \(studentaffairs@sph.rutgers.edu\)](mailto:studentaffairs@sph.rutgers.edu) or any of the appropriate referral resources listed on the [SPH Student Connect Canvas page](#).

**Reporting Discrimination or Harassment:** If you experience any form of gender or sex-based discrimination or harassment, including sexual assault, sexual harassment, relationship violence, or stalking, know that help and support are available. You may report such incidents to the [RBHS Title IX Office](#) or to the School of Public Health's [Office of Student Affairs Office of Student Affairs](#). Rutgers University has staff members trained to support survivors in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, and more. If you experience any other form of discrimination or harassment, including racial, ethnic, religious, political, or academic, please report any such incidents to the School's . The School strongly encourages all students to report any incidents of discrimination or harassment to the School. Please be aware that all Rutgers employees (other than those designated as confidential resources such as advocates, counselors, clergy and healthcare providers as listed in Appendix A to [Policy 10.3.12](#)) are required to report information about such discrimination and harassment to the School and potentially the University. For example, if you tell a faculty or staff member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty or staff member must share that information with the [RBHS Title IX Coordinator](#). If you wish to speak to a confidential employee who does not have this reporting responsibility, you can find a list of resources in Appendix A to University [Policy 10.3.12](#). For more information about your options at Rutgers, please visit [Rutgers Violence Prevention and Victim Assistance](#).

**Overview of School Policies:** Academic and non-academic policies and procedures, such Auditing a Course, Retaking Courses, Grade Grievance and others that cover registration, courses and grading, academic standing and progress, student rights and responsibilities, graduation and more may be found under [Policies](#) on the School of Public Health website. Below are select specific policies; however, students are responsible for keeping informed about academic and non-academic policies and procedures beyond those noted on this syllabus.

**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](http://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 Leave of Absence](http://sph.rutgers.edu/academics/academic-calendar.html) form will receive a failing grade. Furthermore, students dropping to zero credits for the semester are considered withdrawn and must submit a completed 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/academic-calendar.html](http://sph.rutgers.edu/academics/academic-calendar.html)