

A. COURSE BASICS

Course Title: Principles and Methods of Epidemiology
Course Number: PHCO 0502
Course Location: In-Person, Piscataway SPH Room 1A/1B
Course Date & Time: Tuesdays 6:00pm – 8:00pm
Course Instructor: Jason Mehr, MPH, CIC
Email: jsm296@sph.rutgers.edu

Office Hours: By appointment only

Required Course Text: Friis & Sellers, Epidemiology for Public Health Practice, 6th Edition
[Available digitally through Rutgers Libraries](#)

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.

B. COURSE COMPETENCIES

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 United States and New Jersey.
- c. Discuss the science of primary, secondary, and tertiary prevention in population health, including health promotion and screening.
- 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.
- g. 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/ for additional competencies addressed by this course for other degrees and concentrations.

By the end of this course, students will be able to achieve the following:

Objectives:

- 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	Week	Assessment(s)
A	b	1, 2	Quiz 1; Exams
B	c, g	3	Quiz 2; Exam;
C	b, g	2, 12	Quiz 1,7; Project, Exams
D	a, b, f	2, 5, 6	Quiz 1,4,5; Project Exams
E	b, e, f, g	8, 10, 11, 12	Quiz 6,7; Project; Exams
F	a, c, g	4,10,12	Quiz 3; Exams
G	d, e, g	5, 6, 8, 10, 11, 12	Quizzes 4-7; Project Exams

C. COURSE REQUIREMENTS: This course will strictly adhere to School of Public Health Honor Code (See policy statement in Section E of this document)

1. **Grading:** Final course grades will be based on the following:

Web Quizzes	15%
Class Project	20%
Midterm	25%
Final	25%
Participation	15%

Grading Scale:

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

2. **Quizzes:** Twelve 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 Tuesday and will be due before class the following week. Each quiz will have a total of 10 points and the lowest two quiz grades will be dropped. Late submission will result in 0 points.

3. **Class Projects**

Person, place, and time: COVID-19 Pandemic

The COVID-19 pandemic continues having major impacts on public health around the world. The extent of the effects vary widely by country since governments have handled the crisis differently. For this project, students will be organized in teams (assigned by the instructors) based on final fall registration. Each team will be assigned an individual country for which the team will assess the impact of COVID-19 on their population. They will apply person, place and time concepts to describe the steps each country has taken to slow or stop the COVID-19 pandemic. Detailed instructions will be provided early in the semester. See Section D for due dates.

4. **Midterm and Final Examinations:** 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. See Section D for exams dates.
5. **Attendance & Participation:** Students are expected to attend class in person on Tuesdays from 6:00pm-8:00pm, 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 quality versus quantity. For maximum points, students should do the following:
 - a. Maximize attendance
 - b. Lead or significantly contribute to discussions in class or through Canvas.
 - c. Complete class course mid- and final evaluations
6. **Online 30 Participation:** Every week there will be an Online 30 assignment posted on the Canvas website. The assignment will consist of reading an article or guidance document and posting thoughtful discussion points in the course forum. Examples include about what you found interesting/enlightening from the article, evaluation of methods/study design, or implications for future studies or guidance. Each student is expected to post or contribute to someone else's thread at least once before class each week.

Course Canvas Site: The course Canvas site can be found after logging in to <http://Canvas.rutgers.edu/>. Please test your access to the site as soon as possible. **Important course materials will be posted there including lectures and class assignments.** If you cannot access the site, let Mr. Shah or Dr. Rivera-Núñez **know as soon as possible**. There are training materials available to help you with Canvas and can be accessed from your Canvas homepage or you can reach out to Canvashelp@ca.rutgers.edu for assistance.

D. COURSE SCHEDULE:

Week	Date	Topic	Readings	Quizzes	Due
1	1/17	Introduction to Epidemiology and History of Epidemiology	Ch 1	Quiz 1	1/24
2	1/24	Practical Epidemiological Applications	Ch 2	Quiz 2	1/31
3	1/31	Measures of Morbidity and Mortality Used in Epidemiology	Ch 3	Quiz 3	2/7
4	2/7	Descriptive Epidemiology and Data Sources	Ch 4 & 5	Quiz 4	2/14
5	2/14	Study Designs: Ecologic, Cross-Sectional, Case-Control	Ch 6	Quiz 5	2/21
6	2/21	Study Designs: Cohort Studies and Experimental Studies	Ch 7 & 8	Quiz 6	3/7
7	2/28	Midterm Examination	Chapters 1-8; Lectures 1-6		
8	3/7	Causal Inference and Measures of Effect	Ch 9	None-prepare for project	3/21
9	3/14	No Class: Spring Recess			
10	3/21	Project Due in Class (Class Presentations)		Quiz 7	3/28
11	3/28	Interpreting Data	Ch 10	Quiz 8	4/4
12	4/4	Screening Tests	Ch 11	Quiz 9	4/11
13	4/11	Special Topics: Infectious Disease Epidemiology	Ch 12	Quiz 10	4/18
14	4/18	Guest Lecture: Project Firstline	Posted Reading	Quiz 11	4/25
15	4/25	Special Topics: Public Health Infrastructure	Posted Reading	Quiz 12	5/2
16	5/2	Final Examination	Chapters 9-15 Lectures 9-14		

E. 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). Canvas is accessible at canvas.rutgers.edu [Links to an external site.](#).

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 [Links to an external site.](#)). 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 [Links to an external site.](#). 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 Links to an external site.](#)

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 Links to an external site.](#) or to the School of Public Health's [Office of Student Affairs Office of Student Affairs Links to an external site.](#) 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 Links to an external site.](#)) 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 Links to an external site.](#) 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 Links to an external site.](#) For more information about your options at Rutgers, please visit [Rutgers Violence Prevention and Victim Assistance Links to an external site.](#)

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 Links to an external site.](#) 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[Links to an external site.](#)

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 Links to an external site.](#) 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