Course Title: Case Studies in Epidemiology and Public Health

Course Number: QNME 0610

Course Location: Newark Campus (most recently in MSB)

Course Date & Time: Variable (most recently Wednesdays 5:30 to 8:30)

Course Instructor: Pauline Thomas, MD, Associate Professor, Department of Quantitative Methods: Epidemiology and Biostatistics; 973 972 9384; Pauline.thomas@rutgers.edu

Office Hours: By Appointment Only

Course Assistant: NA


Recommended text: A Dictionary of Epidemiology by John M. Last

Ongoing attention to weekly Morbidity Mortality Weekly Reports (CDC) and Pro-Med Digest (Harvard)

Additional/Supplemental Readings/Resources: See above

Course Description: Case Studies in Epidemiology and Public Health will provide vicarious experience in epidemiology and public health practice through a variety of scenarios encompassing infectious disease and chemical outbreaks, chronic diseases and emerging infections. There will be an opportunity to work on a community health profile. The course will teach public health competencies and encourage active participation in the learning experience.

Learning objectives
This course addresses three of the “Ten Essential Public Health Services:” 1) monitor health status to identify community health problems; 2) diagnose and investigate health problems and health hazards in the community; and 3) inform, educate and empower people about health issues.

At the conclusion of this course, students will be able to:
1. demonstrate the ability to participate in public health decision making
2. think logically about public health problems and identify appropriate interventions
3. apply skills learned in previous coursework, particularly epidemiology, to public health practice situations.

Selected Department Competencies Addressed: Provide a bulleted list of the Department’s competencies that will be addressed in this course. If the course is predominantly for MPH students, then include MPH degree competencies for your Department or if it is predominantly for doctoral students, include PhD/DrPH competencies. Begin this section with the following statement: Each Department identifies competencies for each degree offered. The competencies addressed in this course for the MPH (or other degrees) for the Department of ADD DEPT NAME include:
A. Use epidemiologic concepts to identify and evaluate public health and clinical problems
   1. Calculate morbidity and mortality measures
   2. Assess surveillance systems
   3. Apply systems thinking
   4. Utilize vital statistics systems
   5. Conduct an outbreak investigation

B. Critically evaluate epidemiological data and findings

C. Assess the quality of data and their sources
   1. Communicate results from epidemiologic studies
   2. Develop charts and graphs to explicate data
   3. Results orally to an audience

D. Utilize behavioral and social sciences concepts to determine the relationships between health, culture, and community
   1. Identify and assess social, behavioral, and environmental risk factors for disease and injury

E. Identify the principles and limitations of public health screening programs
   1. Describe the role of prevalence ratios in screening
   2. Identify biases that can affect the interpretation of population screening findings

Please visit the Department webpages on the School of Public Health’s website at http://sph.rutgers.edu/ for additional competencies addressed by this course for other degrees and departments.

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

A. demonstrate the ability to participate in public health decision making
B. think logically about public health problems and identify appropriate interventions
C. apply skills learned in previous coursework, particularly epidemiology, to public health practice situations.

Course Requirements and Grading: In this section, Instructor should include

Class participation

Participation in case studies is a mandatory part of the course experience. Student participation is vital to the success of the class and it will greatly enhance the learning process. Through their own participation, students will be able to apply skills and information that they have learned in previous courses, gain confidence in their ability to speak with others in their profession, as well as have the opportunity to affect what their peers learn from the class.

Class participation will be graded based on

- attendance
- completion of reading and reference article assignments
- instructors’ assessment of student participation
Attendance Policy: Attendance at class sessions is mandatory. Greater than two (2) absences will result in an automatic “incomplete” and the student will have to make up those sessions in a subsequent semester.

Instructor Assessment: The instructor will assess each student on a weekly basis. If the student’s class participation score improves over the course of the week, the final grade will take this improvement into consideration, therefore students whose contribution is lacking at the beginning of the course can still get an A in the class if they work at improving it.

- A list of activities, assignments, projects, exams, etc. that contribute to course grade, and the respective point/percentage value of each. For example:
  1. Paper (students own case based on a case in recent literature): 60 pts.
  2. Classroom participation including presentations: 40 pts

Course Schedule: Include week by week listing of each class session: SEE ATTACHED FOR THIS YEAR’S SCHEDULE

- Date
- Topic(s), activities
- Assigned Readings Due
- Assignments Due

School of Public Health Honor Code: The School of Public Health Honor Code is found in the student bulletin (sph.rutgers.edu/academics/catalog/index.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.

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.

Attachments:

1. Guidelines for preparing final paper (a case based on a real investigation)
2. Class schedule of Fall 2014
1. Select an outbreak or public health investigation published in the last 2 years, and clear with Dr. Thomas by November 15.

2. Prepare the instructor’s version of the case with the following sections:
   a. Introduction and presentation of the situation
   b. Development of the story with questions and exercises for the student. There should be at least 20 questions/exercises:
      i. At least 3 of the questions should require a statistical calculation (prevalence, incidence, odds ratio, attack rate, rate ratio, etc.). Please include 3 different types of calculations.
      ii. At least one question should ask the student to develop an epidemic curve.
      iii. Optional: you can also ask the student to develop an additional table or graph displaying some aspect of the data.
   c. You may provide line listed data for a small number of cases; try to include whatever data are provided in the report if you can. FYI it is OK to make up data, if not provided in the case report.
   d. Answers should be provided for each question, including points or issues that the instructor should discuss with the students.
   e. There should be at least 3 references (in a small bibliography or reference section) for the case. (The report of the actual investigation, references to similar cases, references about the disease or condition, references regarding statistical methods, etc).

3. The case should be at least 15 pages, with text sections using 12 font size type, spacing 1.5, and margins 0.5.

4. Due dates:
   a. Draft December 3
      i. Dr. Thomas will provide comments by December 10. I would like to meet with you individually to go over your case.
   b. Final December 17

Contact information for Dr. Pauline Thomas:

pauline.thomas@rutgers.edu; 973 972 8394; 908 403 1615
<table>
<thead>
<tr>
<th>Session #</th>
<th>Date</th>
<th>Topics</th>
<th>Readings/ Assignments Due</th>
<th>Notes</th>
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<tbody>
<tr>
<td></td>
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<td>[After September 3, each class begins with critical discussion of a public health issue students found in the media]</td>
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<tr>
<td>1</td>
<td>Sept 3</td>
<td>Introduction to case studies and to the course. Refresher on outbreak investigation Questionnaire Development: Begin first case: Bot in Argentina</td>
<td>Chapters 1-4 of “Field Epidemiology”</td>
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<td>2</td>
<td>Sept. 10</td>
<td>Complete first case: Bot in Argentina Chronic disease, study design and calculating risk (Cigarette Smoking and Lung Cancer)</td>
<td>Review Chapters 7 and 8 of &quot;Field Epidemiology&quot;</td>
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<td>3</td>
<td>Sept. 17</td>
<td>Cigarette Smoking, wrap-up</td>
<td>Chapters 5 &amp; 6 of “Field Epidemiology&quot; Evaluation of Oswego and Cigarette Smoking</td>
<td>(Students also attended NJMS DPMCH Grand Rounds on Ebola)</td>
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<td>4</td>
<td>Sept. 24</td>
<td>Review of stats tools: Students CHA Case (SUNY Albany) Population based data (Assignment: Community Health Assessment. Choose a city in the US with population between 50,000-500,000) Outbreak investigation, case management, surveillance, analyzing data and vaccination Multistate outbreak of gastrointestinal illness (E coli)</td>
<td>Chapters 7 - 9 of “Field Epidemiology” and review Chapter 3. NYC Dept of Health web site: neighborhoods Each student selects a region or municipality to prepare and present a community health assessment over the next month</td>
<td>Held in Ob Gyn conference room</td>
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<td>5</td>
<td>Oct. 1</td>
<td>Finish multistate e coli</td>
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<td>6</td>
<td>Oct. 8</td>
<td>Lecture on Public Health Surveillance Start Vaccine Efficacy Case</td>
<td>MSB F605 (EV absent)</td>
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<td>7</td>
<td>Oct 15</td>
<td>First 2 Community Health Assessment presentations: CCO, SK (Flatbush, Somerset) Finish Vaccine Efficacy (Texarcana)</td>
<td>MSB F605</td>
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<td>Event Description</td>
<td>Chapter/Resource</td>
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<td>8 Oct 22</td>
<td>Community Health Assessment presentation: SS (Brookline) “Bravo Nigeria” (NPR story) Comparative Attack Rates (Vinyl chloride and Cancer) WHO brief case: Male reproductive occupational disease</td>
<td>Chapter 17 of “Field Epidemiology”</td>
<td>OB GYN Conference Room</td>
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<td>10 November 5</td>
<td>Discussion of “Plan C” Complete Anthrax in NY/NJ Risk Communication Lecture</td>
<td>2 CDC lectures on line</td>
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<td>11 November 12</td>
<td>Risk Communication Exercise Last CHA presentation: EV, Morris County</td>
<td>Paper topic due to Dr. Thomas</td>
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<td>12 November 19</td>
<td>Public Health Law Exercise</td>
<td>Chapter in Gregg on Public Health Law</td>
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<td>December 3</td>
<td>Nisha Jani, Newark Epidemiologist: Outbreak investigations, two examples from Newark</td>
<td>Draft Paper Due by email</td>
<td>Dr. Thomas will be out on this date. She will provide comments by Dec 10, for students to complete a second /final draft</td>
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<td>13 December 10</td>
<td>Monkey Pox: a CDC / State coordination case. Guest, Patricia Fleming, PhD, Professor</td>
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<td>Dr. Thomas available to discuss comments on final paper</td>
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<td>December 17</td>
<td>An Epidemic Disease in South Carolina (mystery case) Final Discussion</td>
<td>Final Paper Due</td>
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