HEAL 350: Epidemiology

Fall, 2015
3 credits

COLLEGE OF CHARLESTON
COURSE SYLLABUS

Time and Location: 3:25-4:40 PM (Monday and Wednesday)
Room 235, Robert Scott Small Building

Instructor: Olivia M. Thompson, Ph.D., M.P.H.

Office Hours: Monday and Wednesday (2:00-3:00 PM and 5:00-6:30 PM),
and by appointment

Office Location: Room B02, Towell Library (the building next to Randolph Hall)

Contact Information: Phone: (843) 953.6752
Fax: (843) 953.6757
E-mail: ThompsonOM@cofc.edu

Prerequisites: HEAL 215 or permission of instructor


Course Description: This course introduces the basic concepts of epidemiology and
biostatistics as applied to public health problems. Emphasis is
placed on the principles and methods of epidemiologic
investigation, appropriate summaries and displays of data, and the
use of classical statistical approaches to describe the health of
populations.

Sudbury, MA: Jones and Bartlett Publishers.
ISBN: 978-1-4496-6548-7
**Learning Objectives:** Upon completion of the course, the student should be able to:

1. Define epidemiology, explain its role in public health practice, and describe the differences between descriptive and analytic epidemiology.

2. Discuss important historical events and individuals in the field of epidemiology.

3. Define and distinguish among certain disease concepts, including those used in infectious and chronic disease epidemiology.

4. Distinguish among epidemic, endemic, and pandemic and describe different types of epidemics and disease models.

5. Characterize a public health problem according to person, place, and time.

6. Define ratio, proportion, and rate as well as certain measures of association.

7. Formulate steps of an epidemiologic field investigation.

8. Describe and use certain measures of health status.

9. Define and distinguish between case-control and cohort studies.

10. Distinguish between the concepts of association and causation.

**Undergraduate Public Health Core Course Competency Addressed**

Explain principles of epidemiology necessary to understand health and impairments of health including the uses of rates, the meaning of causation, and the evaluation of the effectiveness of interventions. Apply principles of epidemiology to reading research articles including case-control, cohort studies and randomized clinical trials (Competency 3).

**Certified Health Education Specialist (CHES) Information**

The following three (3) Areas of Responsibilities of the total of seven (7) Areas of Responsibilities constituting a set of Competencies and Sub-Competencies defining the role of the Health Education Specialist as established by the National Commission for Health Education Credentialing, Inc. ("NCHEC") are included in this Syllabus pursuant to the mandate of the College of Charleston Coordinator for the Bachelor of Science Degree in Public Health:

(1) Assess needs, assets, and capacity for health education (Competency 1)
(2) Implement health education (Competency 3)
(3) Conduct evaluation and research related to health education (Competency 4)
Please note that the NCHEC has determined that: (1) NCHEC will accept the course as described in this Syllabus towards eligibility for taking the Certified Health Education Specialist ("CHES") examination; but (2) such course does not specifically cover the Health Education Competencies. Consequently, NCHEC will not include the three (3) semester hours of such course in the minimum of twelve (12) semester hours from process courses that clearly align with the Health Education Competencies.

The following link provides access to the NCHEC website: www.nchec.org.

**Description of Assignments:**

**Quizzes**
The student will complete twelve (12) 15-item quizzes designed to assess his/her understanding of the six major sections of the course. Quizzes will be completed online, through OAKS, and will be available Wednesday-Sunday as per the Course Outline. Quizzes will be multiple-choice, true or false, and matching in format; and opened-book but timed. Quizzes MUST be completed within 30 minutes of initiation. However, accommodations will be made for any student who has special needs.

**Mid-Term Examination**
The mid-term examination will be administered in-class per the Course Outline and will be essay in format, closed-book, and timed. The examination MUST be completed during the course time-period. However, accommodations will be made for any student who has special needs.

**Critical Review of Epidemiologic Literature (Group Project)**
Teams of four to six students will build on their understanding of epidemiology to critically review a scientific journal article (articles will be assigned). Specifically, students will evaluate the study research question and rationale; study design and population; definition, measurement, and coding of study variables; and data analysis, interpretation, and conclusions. *Teams will then present their critical review to the class during oral presentations (25-30 minutes in length) and then lead a class discussion (10-15 minutes in length) scheduled throughout the course.*

**Final Examination**
The final examination will be administered in-class per the Course Outline and will be comprehensive, essay in format, closed-book, and timed. The examination MUST be completed during the course time-period. However, accommodations will be made for any student who has special needs.
Assignment
Evaluation Scale:

Points
Quizzes 1-12…………………………..360 (30 Points Each)
Mid-Term Examination………………200
Critical Review of Literature………140
Final Examination……………………300

Total…………………………………1000

Grading Requirements: Specific information about the grading criteria for each component will be distributed with the assignment. The relative weight of each course component is as follows:

36% Quizzes (12 Total)
20% Mid-Term Examination
14% Group Projects (Critical Review of Literature)
30% Final Examination

100%

Grading Scale:

900 - 1000 = A 90-100%
880 - 899 = A- 88-89%
850 - 879 = B+ 85-87%
800 - 849 = B 80-84%
780 - 799 = B- 78-79%
750 - 779 = C+ 75-77%
700 - 749 = C 70-74%
680 - 699 = C- 68-69%
660 - 679 = D+ 66-67%
640 - 659 = D 64-65%
620 - 639 = D- 62-63%
<620 = F < 62%

Class Expectations:

1. Active participation by each student is demonstrated by his/her attendance as well as oral contributions to class discussions. Therefore, students must read all assignments BEFORE class.
2. All assignments (written and oral) should reflect knowledge, current research in the field and its application, appropriate use of technology, and creativeness. **ALL work must be completed individually unless a group project is specifically assigned.**

3. All written assignments should be typed and double spaced (12-point font), grammatically correct and presented on time. Late papers are only accepted due to extenuating circumstances that the professor determines.

4. Cell phones are to be turned OFF before entering the classroom. All electronic devices must be kept in book bags or out of sight during class. Texting during class is NOT permitted during class at any time. Any electronic device that is visible during an exam will result in an Honor Code violation.

5. Students with documented special needs must meet with me to determine what accommodations are required to successfully complete the course requirements. However, any student who needs special assistance is encouraged to meet with me during office hours. I want all of you to be successful in my class and I am here to help you.

6. Out of respect to the professor, your classmates, and the academic integrity of the College of Charleston, appropriate attire must be worn at all times and cover the private areas of your body. You are expected to conform to the College’s code of conduct at all times. Thus, any behavior or attire that detracts from learning will result in your immediate dismissal from the classroom.
**COURSE OUTLINE**

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<tr>
<th>DATE (Day)</th>
<th>REQUIRED READINGS</th>
<th>ASSIGNMENTS DUE</th>
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<tbody>
<tr>
<td>8/26 (W)</td>
<td>None: Course Introduction</td>
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<tr>
<td>8/31 (M)</td>
<td>Movie “The Age of AIDS”</td>
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<tr>
<td>9/02 (W)</td>
<td>Movie “The Age of AIDS”</td>
<td>Quiz 1: “The Age of AIDS”</td>
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<tr>
<td>9/09 (W)</td>
<td>Book Chapter 1: Foundations</td>
<td>Quiz 2: McFallls JA Jr. &amp; Book Chapter 1</td>
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<tr>
<td>9/14 (M)</td>
<td>Book Chapter 2: Historic Developments</td>
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<tr>
<td>9/16 (W)</td>
<td>Book Chapter 2: MUSC Field Trip</td>
<td>Quiz 3: Book Chapter 2</td>
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<tr>
<td>9/21 (M)</td>
<td>Book Chapter 3: Disease Concepts</td>
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<tr>
<td>9/23 (W)</td>
<td>Book Chapter 3</td>
<td>Quiz 4: Book Chapter 3</td>
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# PART 2: STUDYING POPULATIONS: DESCRIPTIVE EPIDEMIOLOGY AND INDICATORS

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<tr>
<th>DATE (Day)</th>
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<tr>
<td>9/28 (M)</td>
<td>Book Chapter 4: Design Methods</td>
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<td>9/30 (W)</td>
<td>Book Chapter 4</td>
<td>Quiz 5: Book Chapter 4</td>
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<td>10/05 (M)</td>
<td>Book Chapter 5: Person, Place, and Time</td>
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<td>10/07 (W)</td>
<td>Book Chapter 5</td>
<td>Quiz 6: Book Chapter 5</td>
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<td>10/12 (M)</td>
<td>Book Chapter 6: Indicators</td>
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<td>10/14 (W)</td>
<td>Book Chapter 6</td>
<td>Quiz 7: Book Chapter 6</td>
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<td>10/19 (M)</td>
<td>None: Fall Break!</td>
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# PART 3: STUDYING POPULATIONS: ANALYTIC EPIDEMIOLOGY

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<tr>
<td>10/21 (W)</td>
<td>None: In-Class Mid-Term Examination</td>
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<tr>
<td>10/26 (M)</td>
<td>Book Chapter 7: Design Methods</td>
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<tr>
<td>10/28 (W)</td>
<td>Book Chapter 7</td>
<td>Quiz 8: Book Chapter 7</td>
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<td>11/02 (M)</td>
<td>Book Chapter 9: Causal Inference</td>
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<td>11/04 (W)</td>
<td>Book Chapter 9</td>
<td>Quiz 9: Book Chapter 9</td>
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### PART 4: EXPERIMENTAL STUDIES IN EPIDEMIOLOGY

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<th>DATE (Day)</th>
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<tbody>
<tr>
<td>11/09 (M)</td>
<td>Book Chapter 8: Experimental Studies</td>
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| 11/11 (W)  | Book Chapter 8  
Group Presentation 1 (Colford, Jr. et al., 2005) |

### PART 5: FIELD EPIDEMIOLOGY

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<th>DATE (Day)</th>
<th>REQUIRED READINGS</th>
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<tbody>
<tr>
<td>11/16 (M)</td>
<td>Book Chapter 10: Field Epidemiology</td>
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Group Presentation 2 (FOCUS on Field Epidemiology)
Group Presentation 3 (Rheingold AL, 1998) |
# PART 6: CLINICAL AND CHRONIC DISEASE EPIDEMIOLOGY

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<tr>
<th>DATE (Day)</th>
<th>REQUIRED READINGS</th>
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<tbody>
<tr>
<td>11/25 (W)</td>
<td><strong>None: Thanksgiving Holiday (No Class)</strong></td>
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<tr>
<td>11/30 (M)</td>
<td><strong>None: Thanksgiving Holiday (No Class)</strong></td>
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<tr>
<td>12/02 (W)</td>
<td>Book Chapter 12: Clinical Epidemiology</td>
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## FINAL EXAMINATION

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<th>DATE (Day)</th>
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<tbody>
<tr>
<td>12/14 (M)</td>
<td>4:00 PM-7:00 PM</td>
<td>Final Examination</td>
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Make-Up Tests: Make-up tests will be given at the discretion of the professor and are decided upon individually. If there is an emergency or you are ill the day of an exam, it is your responsibility to get in touch with me as soon as possible. According to the College Bulletin, it is in your best interest to contact the Dean of Students and bring documentation in the case of an emergency or prolonged illness.

Attendance: Students are expected to attend class every day and have all reading materials completed so that he or she can contribute fully to class discussions. *Your attendance is REQUIRED. Students who have four unexcused absences will be withdrawn from the course.*

Honor Code: Each student is required to complete the various assignments individually unless it is noted otherwise in the syllabus. Please see the current Student Handbook - (Academic Honor System) for a description of the College's Honor System, which will be enforced in this class.

ADA Policy: The College abides by section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act that stipulates no student shall be denied access to an education solely by reason of a handicap. Disabilities covered by law include, but are not limited to, learning disabilities and hearing, sight or mobility impairments. If you have a documented disability that may have some impact on your work in this class and for which you may require accommodations, please see an administrator at the Center of Disability Services, (843) 953-1431 or me so that such accommodation may be arranged.