HEAL 350: Epidemiology

CRN 11739 - Section 02

FALL SEMESTER, 2017

Class Meetings: Monday and Wednesday, 3:25pm – 4:40pm, Johnson Bldg, Room 207

Instructor: Brian Bossak, PhD, MPH
Email: bossakbh@cofc.edu (preferred method of contact)
Office: Silcox Physical Education and Health Center, Rm 316
Office Hours: Tuesdays/Thursdays 1:30-4pm or by appointment

Course Prerequisites: HEAL 215

Course Catalog 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.

Course 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.

**Student Learning Outcomes**

1. As a result of this course students will be able to analyze and summarize a case study on an epidemiological field investigation. All students are expected to score 80% or higher on this exercise.
2. As a result of this course students will be able to evaluate a peer-reviewed manuscript of an observational epidemiological study. Students will be able to describe the study design and identify biases that could be present in the study. All students are expected to score 80% or higher on the journal article critical evaluation.
3. At the end of the course students will be able to identify and describe the criteria for demonstrating causal relationships between exposures and outcomes. All students are expected to score an 80% or higher on final exam questions relating to this topic.

**CEPH and CHES Competency Descriptions**

The Council on Education for Public Health (CEPH) publishes guidelines regarding the knowledge and skills that should be presented to students enrolled in public health courses. These guidelines focus on outcomes, or competencies, that are linked to workforce needs as defined by employers and the public health profession as a whole. Each course in the College of Charleston Public Health program covers one or more of these competencies. As courses advance from introductory to more advanced, the competencies covered by these courses must also progress. That is, what you learn in higher level courses should build on, and extend beyond, what you learned in lower level courses. The following CEPH competency is covered by HEAL 350:

3. 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)

For more information, please visit [http://ceph.org/constituents/programs-baccalaureate-level/](http://ceph.org/constituents/programs-baccalaureate-level/).

In addition to pursuing the general public health competencies set forth by CEPH, some students may be interested in pursuing certification as a Certified Health Education Specialist (CHES). This certification requires the individual to sit for – and pass – an exam offered by the National Commission for Health Education Credentialing, Inc. In order to qualify to sit for the CHES exam, the individual must complete coursework covering a variety of competencies and sub-competencies. The following competencies and sub-competencies are covered by HEAL 350:

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)
For more information, please visit http://www.nchec.org/.

**Required Text**

ISBN: 9781284107852

**Recommended Readings**

Any relevant articles/links will be posted on OAKS.

**Course Requirements**

1. **Exams (Midterm and Final):** There will be two examinations. Tentative exam dates are listed on the syllabus. Both exams WILL BE CUMULATIVE through their respective covered content. Exams will include multiple choice, true/false, and/or calculation-based questions. You will need to bring a non-cell phone calculator to class on exam days. If you will be absent on exam day, you must make PRIOR arrangements with me. Make-up exams will not be given without prior arrangement for a valid and documented, serious and extenuating, reason for missing the exam. You should turn in the appropriate documentation to the Absence Memo Office at 67 George St.

2. **Quizzes:** There will be two quizzes on material covered in-between exams. Quizzes will include multiple choice, true/false, and/or calculation based questions.

3. **Journal Article Critical Evaluation:** This is an individual written assignment. You will be critically assessing a peer-reviewed epidemiological article that describes the results of a cross-sectional, cohort, or case-control study. Your write up should be 2 pages in length and follow guidelines that will be distributed in class.

4. **Independent Assignments:** There will be two of these during the semester.

5. **Presentation:** This a small group assignment. Students will be randomly assigned to groups of 2-3 students, with no group larger than 3 students. Each group will select a disease from a list of selected illnesses and then prepare and provide a presentation to the class on their selected disease. The presentation will consist of an epidemiological profile of the selected disease as well as ancillary information. The presentation should be designed to educate the class on the selected disease and once selected, presentation dates are firm, and missing the date or being unprepared to present will result in a zero grade for the assignment. No make-ups are possible once presentation schedules are set. More information will be distributed in class.

**Course Grade Breakdown (Total Possible Points = 300)**

- Quizzes (25 points each x 2)  
  50 points (16.66%)
- Independent Assignments (5pts each x 2)  
  10 points (3.33%)
- Article Evaluation  
  25 points (8.33%)
- Presentation  
  15 points (5%)
- Midterm  
  100 points (33.33%)
- Final Exam  
  100 points (33.33%)
Grading


Grading Scale:

A 90-100
A- 88-89
B+ 85-87
B 80-84
B- 78-79
C+ 75-77
C 70-74
C- 68-69
D+ 66-67
D 64-65
D- 62-63
F Less than 62

Numerical grades will be rounded to the nearest whole number and no additional rounding will occur. For example, a hypothetical final point total of 447 out of 500 possible points would be an 89.4% course average, which would result in an A- final grade (89% course grade).

Course Policies

ATTENDANCE: Students should strive to attend every scheduled class meeting.

ARRIVING LATE TO CLASS: Students arriving late to class disrupt the learning experience of their classmates and disrupt the class in session. Late arrivals are not only a class disruption, but are also disrespectful to both the other members of the class and the professor teaching it. This is true for all classes, no matter who is teaching or what the subject is. Part of the learning process in college is learning about societal and career-related behaviors and expectations. Do not be late to class. I have now adopted a policy from another faculty member – after a certain period of time after class begins, I will close the doors to the class and will not open them for late arrivals. The only exception is for students that contact me about a conflict (legitimate reason for being late, or distance between classes on campus) that is documented BEFORE a class session.

LATE WORK: I will NOT accept late work unless there is an extenuating valid reason (i.e. accident, major illness). Please contact me ahead of time if you know you will be absent on a day when an assignment is due.

WRITTEN ASSIGNMENT FORMATTING:

- 12 point font, Times New Roman
- 1” Margins, 1.5 spaced
- Page numbers at bottom right corner
- APA citation
TURNING IN ASSIGNMENTS: Assignments should be turned in as hard-copies at the beginning of class. I will NOT accept assignments through email. I will NOT accept late assignments unless prearranged with me due to extenuating and documented circumstances. Do not expect to miss the deadline for an assignment and then be able to turn it in late for a grade.

WRITTEN ASSIGNMENTS: It is strongly encouraged for every student to utilize the services of the Writing Lab in the Center for Student Learning at the Addlestone Library (First Floor) for every written assignment. Proofread assignments before submitting for a grade. The Writing Lab can be reached at 843-953-5635. Additional information is available on the web at: csl.cofc.edu.

EXTRA CREDIT: Extra credit will not be provided, encouraged, or utilized on an individualized basis in this course. Anyone asking for individualized extra credit will be referred back to this policy in the syllabus. Any extra credit offered will consist of bonus exam questions available to all students and any such opportunity will be at the discretion of the instructor.

ELECTRONIC DEVICES: Unfortunately, electronic devices have proven to be a distraction in face-to-face classes rather than a helpful technology. Electronic devices include cell phones, tablets, computers, laptops, any communications device, game devices, advanced calculators, and even electronic cigarettes. Cell phones should be on silent during class. They must remain out of sight during exams. Take cell phone calls before or after class. Students texting during class may be disrupting their classmates’ learning experience and may be asked to leave the classroom. Laptops/tablets are NOT allowed to be on during lecture and may only be used, if necessary, during specific in-class exercises or as a documented accommodation. Students causing a disruption to any class meeting as a result of the use of electronic devices may be asked to leave the classroom and/or referred to the Dean of Student’s Office for further action. Another policy that I’ve had to add recently: No vaping is acceptable in-class. Violators will be asked to leave the classroom.

College of Charleston Honor Code and Academic Integrity

Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when suspected, are investigated. Each incident will be examined to determine the degree of deception involved.

Incidents where the instructor determines the student’s actions are related more to a misunderstanding will be handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed both by the instructor and the student, will be forwarded to the Dean of Students and placed in the student’s file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XXF in the course, indicating failure of the course due to academic dishonesty. This status indicator will appear on the student’s transcript.
for two years after which the student may petition for the XX to be expunged. The F is permanent.

Students should be aware that unauthorized collaboration--working together without permission--is a form of cheating. Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor.

Students can find the complete Honor Code and all related processes in the Student Handbook at http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php.

Copyright and Plagiarism: Please note that all materials used in this course are copyrighted. This includes, but is not limited to, handouts (i.e., syllabi, in-class materials, quizzes, exams, and other forms). Therefore, no student has the right to copy the handouts, unless permission is expressly granted. As commonly defined, plagiarism consists of passing off as one’s own the ideas, words, writings, of another person. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you have the permission of that person.

**Statement on Disabilities**

Any student eligible for and needing accommodations because of a disability is requested to speak with me during the first two weeks of class or as soon as the student has been approved for services so that reasonable accommodations can be arranged.

The College will make reasonable accommodations for persons with documented disabilities. Students should apply for services at the Center for Disability Services/SNAP located on the first floor of the Lightsey Center, Suite 104. Students approved for accommodations are responsible for notifying me as soon as possible and for contacting me one week before the accommodation is needed.

This College abides by section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. 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/SNAP, (843) 953-1431 or me so that such accommodation may be arranged.

**Other Accommodations**

Any student who needs special arrangements as a result of religious holidays or university-sponsored events, etc. must contact me within the first two weeks of class to make such accommodations as may be necessary.
Center for Student Learning

I encourage you to utilize the Center for Student Learning’s (CSL) academic support services for assistance in study strategies, speaking & writing skills, and course content. They offer tutoring, Supplemental Instruction, study skills appointments, and workshops. Students of all abilities have become more successful using these programs throughout their academic career and the services are available to you at no additional cost. For more information regarding these services please visit the CSL website at http://csl.cofc.edu or call (843)953-5635.

Changes to Syllabus

The schedule, policies, and procedures listed in this syllabus are subject to change, at the discretion of the instructor.

Tentative Schedule (subject to modification at instructor’s discretion)

<table>
<thead>
<tr>
<th>Week</th>
<th>Day(s)</th>
<th>Dates</th>
<th>Readings</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>W</td>
<td>8/23</td>
<td>Syllabus and Chapter 1</td>
<td></td>
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<tr>
<td>2</td>
<td>M/W</td>
<td>8/28, 8/30</td>
<td>Chapter 2</td>
<td></td>
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<tr>
<td>3</td>
<td>M</td>
<td>9/4</td>
<td>LABOR DAY – NO CLASS MEETING</td>
<td>Independent Assignment – John Snow</td>
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<tr>
<td>3</td>
<td>W</td>
<td>9/6</td>
<td>Chapter 3</td>
<td></td>
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<tr>
<td>4</td>
<td>M/W</td>
<td>9/11, 9/13</td>
<td>Chapter 4</td>
<td></td>
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<tr>
<td>5</td>
<td>M</td>
<td>9/18</td>
<td>Review Chapters 1-3</td>
<td>Quiz #1</td>
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<tr>
<td>5</td>
<td>W</td>
<td>9/20</td>
<td>Chapter 5</td>
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<td>M/W</td>
<td>9/25, 9/27</td>
<td>Chapter 6</td>
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<td>10/2</td>
<td>Chapter 7</td>
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<td>7</td>
<td>W</td>
<td>10/4</td>
<td>Review Chapters 1-6</td>
<td>MIDTERM EXAM</td>
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<td>8</td>
<td>M/W</td>
<td>10/9, 10/11</td>
<td>Chapter 8</td>
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<td>9</td>
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<td>10/16, 10/18</td>
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<td>10/23, 10/25</td>
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<td>10/30</td>
<td>Chapter 11</td>
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<td>Review Chapters 1-9</td>
<td>Quiz #2</td>
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<td>12</td>
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<td>11/6</td>
<td>CONFERENCE – NO CLASS MEETING</td>
<td>Independent Assignment – Oswego Case Study</td>
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<td>12</td>
<td>W</td>
<td>11/8</td>
<td>Chapter 12</td>
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<td>M/W</td>
<td>11/13, 11/15</td>
<td>Article Review</td>
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<td>14</td>
<td>M</td>
<td>11/20</td>
<td>Article Review Due</td>
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<tr>
<td>14</td>
<td>W</td>
<td>11/22</td>
<td>NO CLASS MEETING</td>
<td>THANKSGIVING</td>
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<tr>
<td>15</td>
<td>M/W</td>
<td>11/27, 11/29</td>
<td>Presentations</td>
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<tr>
<td>16</td>
<td>M</td>
<td>12/4</td>
<td>Review Chapters 1-12</td>
<td>Finish Presentations</td>
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FINAL EXAM: Wednesday, December 13th from 4:00 to 7:00pm
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The final exam will be given in the same classroom as used for class meetings (Johnson 207). The exam starts promptly at the beginning of class time

Final Exam Schedule

Final examination times are scheduled by CofC’s Office of the Registrar. No deviations are permitted and the examination will be held as scheduled. Any student missing the final examination for any reason (other than an extenuating, valid and documented excuse presented prior to the exam) will receive a grade of zero for that assignment.

For exam scheduling information, see the registrar’s exam schedule at: http://registrar.cofc.edu/pdf/exam-schedule-fall2017.pdf