Syllabus – PBH 421
Epidemiology

Course Number: PBH 421
Course Title: Epidemiology
Number of Credits: 4 credits
Day/Time: Monday and Wednesday 6pm - 7:50pm
Location: Rankin 204B
Prerequisites: CMP 112, PBH 101, PBH 102, PBH 210
Instructor: Benjamen Jones, MPH
Contact Information: Phone: 262-470-2122
Email: bdjones@carrollu.edu
Office Hours: 5:30pm on Monday and Wednesday in Rankin 204B (by appointment only)

Course Description: Modern epidemiology, as a science applicable to investigations of disease and other outcomes, policy assessment, and population science, evolved during the last half of the 20th century. Epidemiologic methods focused on application of statistical theory, use of survey methods, and information technology implementation. Epidemiology also broadened its scope to include concepts of causation applicable to non-communicable disease and other health determinants, including social and behavior factors. Applications to intervention efficacy, effectiveness, and safety, testing and decision-making methods, and policy analysis applicable to social concerns recently have been integrated into epidemiology teaching and research.


Course Goals:
- Acquire a basic knowledge and understanding of the increasingly vital and expanding role of epidemiology in enhancing the health of both individuals and communities through effective investigation, prevention and treatment.
- Demonstrate the ability to critique and interpret epidemiologic studies in regards to study design, validity and reliability, and inferences of association and causation.
- Describe the relevance and benefit of epidemiology in population health management, infectious and chronic disease programs, environmental health programs, and maternal and child health programs.
- Explain the relationship between epidemiology and the evaluation of health services and public policy.

Student Learning Objectives:
At the end of this course, students will be able to:
1. Describe the role that epidemiology serves in the discipline of public health, and be able to describe a public health problem in terms of magnitude, people, time, and place.
2. Apply proper terminology and definitions used in epidemiology.
3. Identify key data sources for epidemiologic studies.
4. Identify various study designs used in epidemiology and describe their strengths and limitations.
5. Calculate the basic statistics used in epidemiology, including morbidity and mortality rates, incidence and prevalence, sensitivity and specificity of screening tests, and measures of effect.
6. Explain the importance of epidemiology for informing scientific, ethical, economic and political discussion of health issues.
7. Interpret, articulate, and critique results of epidemiological analyses found in public health studies.
8. Identify basic steps of an infectious disease outbreak.
Grading Scale:

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<th>Grade</th>
<th>Range</th>
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<tr>
<td>A</td>
<td>95 – 100</td>
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<tr>
<td>AB</td>
<td>90 – 94.99</td>
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<td>B</td>
<td>85 – 89.99</td>
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<td>BC</td>
<td>80 – 84.99</td>
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<td>C</td>
<td>70 – 79.99</td>
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<td>D</td>
<td>60 – 69.99</td>
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<tr>
<td>F</td>
<td>0 – 59.99</td>
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**Student Evaluation:**
- Classroom attendance and participation: 10%
- Assignments: 15% (Objectives: 1,2,3,4,5,6,7,8)
- Quizzes: 30% (Objectives: 1,2,5)
- Exams: 30% (Objectives: 1,2,5)
- Final project: 15% (Objectives: 3,5,6)

**Attendance and Participation Policy:** Students will be evaluated on attendance, participation in class exercises and discussions, and demonstration of completing reading assignments. One excused absence is granted for each student, and for each additional absence the participation grade will decrease by 4 points. Cell phone use during class time is not permitted and will result in a decrease of participation grade.

**Assignments:** For each class there will be a reading assignment and written assignment due by the next class period. Students are expected to come to class having read the specific reading assignment. The written assignments should be typed and students should be prepared to discuss their answers at the beginning of class. Late assignments will be assessed a 5-point/day penalty. All written assignments should be done on your own, you may not work with other students in writing your responses to the questions. Written assignments will be a combination of textbook questions and other questions which will be distributed at the appropriate time.

**Final Project:** Each student will complete a final project which will have a written and oral component. Topics and structure will be discussed during class.

**Exams and Quizzes:** There will be 3 quizzes, a mid-term and a final exam. Quizzes will be open-book.

**Final Exam Schedule:** The final exam will be during the regularly schedule class period on Monday, December 18.

**Statement of due notification:** If a student is found in violation of the Carroll University Academic integrity policy, I reserve the right to give that student an “F” for the course.

**Statement of the right to modify syllabus:** The instructor and the University reserve the right to modify, amend or change the syllabus (course requirements, grading policy, etc.) as the curriculum and/or program require(s).

**Statement regarding Accommodation for Disabilities:** Student’s with disabilities who may need accommodations or any student considering obtaining documents should make an appointment with the Walter Young Center (262-524-7621) no later than the first week of class.

**Statement of Academic Integrity:** The Carroll University Academic Integrity Policy is located in the student handbook – [https://my.carrollu.edu/ICS/icsfs/2016-2017_Student_Handbook.pdf?target=da6e7a0f-1440-451d-b87b-780f975a6595](https://my.carrollu.edu/ICS/icsfs/2016-2017_Student_Handbook.pdf?target=da6e7a0f-1440-451d-b87b-780f975a6595). Please familiarize yourself with it. Carroll University emphasizes that students have an obligation to conduct their academic work with honesty and integrity. All acts of academic misconduct are serious. If you have any questions about appropriate citations, please ask.
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Assignments due for next class</th>
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| 9/11 | Introductions  
History and Scope of Epi | **Read:** Chapters 1 & 2  
**Assignment #1:** Complete Study Questions and Exercises (#2,6,7,14) at end of chapter 1 (p. 49-51). For # 7, 1 paragraph instead of 1 page. |
| 9/13 | Applications of Epi | **Read:** Chapter 5  
**Assignment #2:** Complete Study Questions and Exercises (#2,4,6,7) at end of chapter 2 (p. 101-103). |
| 9/18 | Sources of Data | **Read:** Chapter 4  
**Assignment #3:** Complete Study Questions and Exercises (#2,5,6) at end of chapter 5 (p. 274-276). For question #6, find 1 newspaper article and at least 1 journal article and analyze. |
| 9/20 | Descriptive Epi | **Read:** Chapter 3  
**Assignment #4:** Complete Study Questions and Exercises (#1,6,7,8 ) at end of chapter 3 (p. 223-224) |
| 9/25 | Measures of Morbidity and Mortality | **Assignment #5:** Complete Study Questions and Exercises (#2-5) at end of chapter 3 (p. 152-155) and WISH questions (handout) |
| 9/27 | Quiz #1  
Adjusting Rates | **Read:** Chapter 6 and Odds Ratio Article  
**Assignment #6:** Adjusted Rates (Handout) & choose topic for final project |
| 10/2 | Ecological, Cross sectional Case-control | **Read:** Chapters 7, 8 and Cohort Article  
**Assignment #7:** Complete Study Questions and Exercises (#2,3,7-9,12) at end of chapter 6 (p. 317-319) |
| 10/4 | Cohort and Experimental | **Read:** Chapter 9  
**Assignment #8:** Complete Study Questions and Exercises (#3,5-7,11) at end of chapter 7 (p. 362-363) due 10/9 & Discuss Ethical Assignment |
| 10/9 | Mid-term | |
| 10/11 | No class | Work on Ethical Assignment due 10/18 |
| 10/16 | FALL BREAK | |
| 10/18 | Measures of effect 1 | **Assignment #10:** Complete Study Questions and Exercises (#1-10) at end of chapter 9 (p.431-433) |
| 10/23 | Measures of effect 2 | **Read:** Questionnaire Bias article |
| 10/25 | Data Interpretation Issues | **Read:** Chapter 11  
**Assignment #11:** Complete Study Questions and Exercises (#4-10) at end of chapter 10 (p.456-458) |
| 10/30 | Screening for Disease | **Read:** Chapter 12  
**Assignment #12:** Complete Study Questions and Exercises (#3,5,6-9) at end of chapter 11 (p.487-488) and Handout |
| 11/1 | Quiz #2 & Infectious Disease Epi 1 | **Assignment #13:** Enteric Interview (Handout) |
| 11/6 | Infectious Disease Epi 2 | **Assignment #14:** Complete Study Questions and Exercises (#1,2,5,6) at end of chapter 12 (p.539-542) and Handout |
| 11/8 | Case Study | NONE |
| 11/13 | No class | **Read:** Chapter 13 |
| 11/15 | Contagion Movie | **Assignment #15:** Movie Assignment |
| 11/20 | Infectious Disease Case Study | NONE |
| 11/22 | THANKSGIVING BREAK | |
| 11/27 | Infectious Disease Case Study | **Assignment #16:** Outbreak investigation (Handout) |
| 11/29 | Environmental Epi | **Assignment #17:** Complete Study Questions and Exercises (#1,2,5,15) at end of chapter 13 (p.591-592) |
| 12/4 | Quiz #3 and Preparedness Epi | Prepare for presentation |
| 12/6 | Class Presentations | Prepare for presentation |
| 12/11 | Class Presentations | Prepare for presentation |
| 12/13 | Class Presentations/Review | Review for Final |
| 12/18 | Final exam | |
New Learning Management System

Effective Fall 2017 Carroll is changing Learning Management Systems from eLearning to Canvas. You can access Canvas through my.carrollu.edu just like you accessed eLearning. The Canvas link is located on the left side of the screen under Quick Links. A Canvas tab will also replace the current eLearning tab.

There’s an app for that!

The Canvas by Instructure app is the mobile version of Canvas that helps you stay current with your courses anywhere you go. Available for iOS and Android devices.

Need help with Canvas?

There are several ways that you can get help using Canvas:

1. Click the Canvas Help button on the home page of any course.

2. Call the Canvas Support Hotline (available 24/7)  
   (844) 358-6885

3. Click the Help button on the Canvas Menu bar and click Chat with Canvas Support. (Also available 24/7.)

4. Click Search the Canvas Guides in the Help Menu and search for an answer.