

**PubH 4040 Fundamentals of Epidemiology
Spring Semester 2018**

Instructor

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Office Hours: Tues/Thurs 1:30 – 2:30pm
Please email or stop by to schedule a visit at another time

Undergraduate Teaching Assistant

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Required Textbook

Epidemiology for Public Health Practice, 5th Edition. R.H. Friis, T.A. Sellers. 2013.

Course Material

Syllabus, Lecture Notes, Assignments, and Grades will be located on USU Canvas.

Course Outcomes

This course is designed to introduce students in public health and related health science fields to epidemiology, from terminology to study design and evaluation, and to the application of epidemiologic tools in public health.

The overall objectives of this class are as follows:

- Discuss the foundations of epidemiology, including definitions, concepts, and applications of the field.
- Describe important historical developments in epidemiology.
- Understand practical disease concepts used in epidemiology.
- Apply common study design strategies and statistical measures used in epidemiologic research.
- Understand the basics of causal and statistical inference.
- Apply basic concepts and approaches used in the field of epidemiology.
- Describe basic concepts of infectious disease, chronic disease, work, and environmental epidemiology.
- Introduce aspects of molecular and genetic epidemiology.

Grading

Your final grade for the course will be determined by combining the points you receive for each of five major components. The final grade for the course will be determined as follows:

20% - Exam #1
20% - Exam #2
20% - Exam #3
10% - Discussion paper
10% - Quizzes
20% - Cumulative final exam

Question material for quizzes, midterms and the final exam will come from the textbooks, course notes and lecture discussions.

Approximate grading scale:

A:	≥ 93%
A-:	≥ 90%
B+:	≥ 87%
B:	≥ 83%
B-:	≥ 80%
C+:	≥ 77%
C:	≥ 73%
C-:	≥ 70%
D+:	≥ 67%
D:	≥ 60%

Greater than 60% is required to pass

Quizzes

Daily quizzes will possibly be administered anytime during the lecture using an iClicker and/or through CANVAS (outside of lecture hours). Please register your iClicker ASAP. If a quiz will be administered through CANVAS, I will announce it in class and will provide instructions as to when it will need to be completed. Quizzes will consist of 5 questions (1 point per question). A student will score a zero if they are absent or does not complete the quiz. Your lowest quiz score for the semester will be dropped in the total point tabulation of the quizzes. An average quiz score will be calculated to determine 10% of the student's final quiz grade.

Exams

Three exams will be issued during the term. Each exam will consist of 20% of your final grade. Please pay close attention to the course outline when studying for the exams. These exams will be completed in the USU Testing Center. You will 1.5 days to complete this exam. Please schedule your appointments now. Students will have 80 minutes to complete the exam. The exam questions will consist of true/false, multiple choice, and short answer questions.

The **final exam** is scheduled to be taken in the USU Testing Center. It will be available for students to take anytime between April 30th – May 2nd. Please schedule your take now to take the exam. You will have 110 minutes to complete the exam. The exam will consist of 20% of your final grade. The final exam format will be exactly like the previous exams. This final will be a comprehensive exam from chapters 1 – 13 and from the guest lectures.

Epidemiology Discussion Paper

Students will be required to watch 4 documentaries outside of class. These documentaries are found by linking to the following websites:

1A. The Trouble with Antibiotics 10/14/2014: <http://www.pbs.org/wgbh/pages/frontline/trouble-with-antibiotics/>

OR

1B. Hunting the Nightmare Bacteria 10/22/2013:
<http://www.pbs.org/wgbh/pages/frontline/hunting-the-nightmare-bacteria/>

AND

2. The Vaccine War 03/24/2015
<http://www.pbs.org/wgbh/pages/frontline/the-vaccine-war/>

3. Supplements and Safety 01/19/2016:
<http://www.pbs.org/wgbh/frontline/film/supplements-and-safety/>

AND

4. The Weight of the Nation Part 1 05/14/2012:
<https://www.youtube.com/watch?v=-pEkCbqN4uo>
- Please note that there are images that some would deem as graphic between 38-41 minutes. You may skip over this section if you are so inclined.

- Students will be required to complete a 3-page discussion paper on two of the documentaries.
- You are required to select one of the three documentaries related to infectious diseases **AND** one of the two documentaries with chronic/environmental exposure diseases.
- **This assignment is due by 04/06/2018.** You may turn it in early if you so desire.
- I AM NOT LOOKING FOR A SUMMARY OF THE 2 DOCUMENTARIES THAT YOU HAVE SELECTED.
- Using information provided in the documentary **AND** outside research material, you will be asked to discuss each documentary topic that you selected **AND** to compare and contrast differences between the disease issues. Please remember to refer to epidemiological terms and the math that is associated with presenting these diseases. Using the outline provided in the textbook (page 14-15) and course notes (Chapter 1), please describe, explain, predict, and discuss control methods of the disease or behavior you have selected.
 - Items you may want to consider describing in your paper/presentation could include, what is the incidence and prevalence of the disease? What is the epidemiological and financial impact/burden of the disease at a regional, national, and international level? What techniques do epidemiologists use to address, control, or reduce the number of cases of this disease? What stigma or psychological issues might epidemiologists need to be aware of when collecting data and implementing control methods?
 - You may want to seriously consider referring to refereed journal articles when presenting your findings. Websites are not considered refereed journal articles.
- **Discussion paper criteria:** This paper needs to be in your words and not plagiarized. The minimum requirements for this paper will be a 3-page minimum/4-page maximum, single space, 1-inch margins and no more than 12-point font. Take the time to fully describe the selected disease/behavior and its impact to public health. Please be thorough when describing the epidemiological principles.

Course Evaluation

Please complete online course evaluations during the last 2 weeks of the course. I do read them and use them to improve the course.

Course Fees

There are no course fees associated with this course.

Special Needs

Students with physical, sensory, emotional or medical impairments may be eligible for reasonable accommodations in accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. All accommodations are coordinated through the Disability Resource Center (DRC) in Room 101 of the University Inn, 797-2444 voice, 797-0740 TTY, or toll free at 1-800-259-2966. Please contact the DRC as early in the semester as possible. Alternate format materials (Braille, large print or digital) are available with advance notice.

2018 EPIDEMIOLOGY COURSE SCHEDULE

Day	Date	Lecture Topic	Readings in Epidemiology for Public Health Practice
T	9-Jan	Course Intro. AND History and scope of epidemiology	Chap. 1: 1-54
TH	11-Jan	Practical applications of Epidemiology	Chap. 2: 55 - 106
T	16-Jan	Continue - Practical applications of Epidemiology	" "
TH	18-Jan	Measures of morbidity and mortality used in epidemiology	Chap. 3: 107- 156
T	23-Jan	Crude rates, specific rates, adjusted rates	" "
TH	25-Jan	Descriptive epidemiology: person, place, time	Chap. 4: 157 - 234
T	30-Jan	Characteristics of place and time	" "
TH	1-Feb	Sources of data for use in epidemiology	Chap. 5: 235 - 278
T	6-Feb	Continue - sources of data in epidemiology	" "
TH	8-Feb	Study Designs: ecologic, cross-sectional, case-control (not on exam #1)	Chap. 6: 279 - 322
T	02/13-02/14	EXAM I (CHAPTERS 1 - 5)	
TH	15-Feb	Cross-sectional studies, case-control studies (Scott gone - recorded lecture)	Chap. 6: 279 - 322
T	20-Feb	President's Day - Monday Class Schedule - No Epid. Class	
TH	22-Feb	Study Designs: Cohort studies (Scott gone - recorded lecture)	Chap. 7: 323 - 366
T	27-Feb	Experimental study designs	Chap. 8: 367 - 408
TH	1-Mar	Community trials	Chap. 8: 367 - 408
T	6-Mar	Spring Break - No Classes	
TH	8-Mar	Spring Break - No Classes	
T	13-Mar	Continue - Community Trials	Chap. 8: 367 - 408
TH	15-Mar	Study Designs Review	
T	03/20-03/21	EXAM II (CHAPTER 6 - 8)	
TH	20-Mar	Measures of effect	Chap. 9: 409 - 434
T	22-Mar	Measures of Effect AND Data interpretation issues	Chap. 9 & 10: 409 - 460
TH	27-Mar	Continue - Data interpretation issues	Chap. 10: 435 - 460
T	3-Apr	Screening for disease in the community	Chap. 11: 461 - 490
TH	5-Apr	Continue - screening for diseases in the community	" "
T	10-Apr	Applied Epidemiological approaches - Dr. Ed Redd	
TH	12-Apr	Infectious disease epidemiology	Chap. 12: 491 - 546
T	17-Apr	Continue - infectious disease epidemiology	Chap. 12: 491 - 546
TH	19-Apr	Epidemiologic aspects of chronic, work and the environment (not on exam #3)	Chap. 13: 547 - 598
TH	04/19-04/20	EXAM III (Chapters 9 - 12 NO chronic disease material)	
T	24-Apr	Applied epidemiological approaches - Dr. Michael Visick	
TH	26-Apr	Continue - work and environmental epidemiology	Chap. 13: 547 - 598
T	04/30-05/02	Comprehensive Final Exam : Monday -Wednesday at Testing Center (110 mins)	