HE220 Introduction to Epidemiology and Health Data Analysis
Linn-Benton Community College
Winter 2010

Instructor: Kristi Murphey, ABD, MS
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Office Location: AC 109
Office Hours: MW 10:00-11:00 a.m., TR 11:00 a.m. – 12:00 noon

Course Description:
This course is an introduction to epidemiology and the use of elementary statistics for students in health-related studies. The course is designed to provide preparatory background for taking subsequent course in epidemiology and health statistics offered by the Department of Public Health. This course introduces the measures of disease frequency, analytical epidemiology, study designs, experimental designs, and basic elements of descriptive statistics and inferential statistics.

Course Objectives:
1. Demonstrate an understanding of the basic concepts, constructs, and principles fundamental to epidemiology.
2. Demonstrate an understanding of essential concepts of infectious and chronic diseases.
3. Demonstrate an understanding of measures of mortality and morbidity rates and ratios.
4. Gain an understanding of the basic types of research and uses of statistics.
5. Describe and compute the measures of central tendency: mean, median, and mode.
6. Describe and compute the measures of variability: range, variance, and standard deviation.
7. Learn and work with various statistical distributions.
8. Understand the importance and process of sampling in research and various research designs.
9. Demonstrate and understanding of epidemiological hypothesis generating and evaluation.
10. Describe and compute tests of significance, point estimates, and confidence intervals.

Course Materials:
You will need the following text book and materials to complete this class:

- A calculator with square root and exponential notations for this class. No cell phone calculators allowed.
- Course handouts and Blackboard Materials

Evaluations:
Study Questions (8 x25 points) 200 points
Quizzes (4 x 50 points) 200 points
Final Exam 100 points
TOTAL 500 points

Course Comments:
1. Out of respect for your classmates and myself, no cell phones, BlackBerry Devices, IPods, or MP3 players in class. Turn off all electronics (except your calculator) before class and put them away out of site.
2. I do accept late assignments – it is 25% off for each day late. After three days, you will get a zero grade, but I will still correct it so you have a study tool.
3. I do not accept any assignments in the form of an email attachment. You must submit all electronic work via Digital Dropbox on Blackboard. Read all instructions on saving and sending files.
4. Students are expected to be honest and ethical in their academic work. Academic dishonesty is defined as an intentional act of deception in one of the following areas:
• Cheating – use or attempted use of unauthorized materials, information or study aids
• Fabrication – falsification or invention of any information
• Assisting – helping another commit an act of academic dishonesty
• Tampering – altering or interfering with evaluation instruments and documents
• Plagiarism – representing the words or ideas of another person as one’s own

5. You should meet with your instructor during the first week of class if
   • You have a documented disability and need accommodations,
   • Your instructor needs to know medical information about you, or
   • You need special arrangements in the event of an emergency.
   If you think you may need accommodation services, please, contact Disability Services, 917-4789.

Attendance:
It is very important that you not only attend but participate in each class. If you miss a step during this class, it makes it difficult to complete the sequence of data analysis.

Study Questions:
Study questions will be assigned each week. Due dates can be found in your syllabus. If you miss the class when study questions were assigned, you can find the assignment in Moodle.

Exams:
There will be four new-material exams and one comprehensive (final) exam for this class.

Please Note:
• Class participation is encouraged. ASK QUESTIONS – it is very important for your learning. There are no dumb questions!
• Always bring your calculator to class
• Statistics is best learned through practice with problems.

To Access Moodle Material:
The first thing you need to do is create an email address if you do not already have one. All LBCC eLearning classes require that you have a valid email account in order to participate in online interaction. If you don’t already have an email account, currently enrolled students may create a free LBCC email account at https://cf.linnbenton.edu/netmail/stu_lookup.cfm?pgid=2. If you need assistance setting up an email account, call WebMail Support (541)917-4491.

Next, to access Moodle, go to http://elearning.linnbenton.edu.
• If you have used Moodle for an LBCC class, use the same user name and password – the system will automatically enroll you into this course.
• If you are new to the Moodle site, the system will create your user account and enroll you into the course(s) for which you are registered. Your Moodle user name is your "x" number (or OSU dual-enrollment number). Your password is “changeme” (no spaces). Once you are in, you will be prompted to come up with a new password.

This class can be found on the left of your screen under “My Courses” and then the folder “Health and Human Performance”. The access code is: (given the first day of class).
Tentative Course Calendar

The instructor reserves the right to change this course calendar as needed.
No book chapters or tests will be added.

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<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Work Due</th>
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| January 4-8    | Course Introduction  
Introduction to Epidemiology  
Statistics and How They are Used  
Readings: Notes, Chapter 1 |                  |
| January 11-15  | Populations and Samples  
Organizing and Displaying Data  
Summarizing Data  
Readings: Chapters 2-4 | HW 1 Due 1/11    |
| January 18-22  | NO CLASS JANUARY 18, 2010 – School Holiday  
QUIZ 1 January 20  
Probability  
Readings: Chapter 5 | HW 2 Due 1/20    |
| January 25-29  | Probability  
Readings: Chapter 5 |                  |
| February 1-5   | QUIZ 2 February 1  
The Normal Distribution  
Sampling Distribution of the Means and  
Estimation  
Readings: Chapters 6 & 7 | HW 3 Due 2/1     |
| February 8-12  | One Sample Significance Testing  
Two Sample Significance Testing  
Readings: Chapters 8 & 9 | HW 4 Due 2/8     |
| February 15-19 | NO CLASS FEBRUARY 15, 2010 – School Holiday  
QUIZ 3 February 17  
Incidence and Prevalence  
Readings: Notes | HW 5 Due 2/17    |
| February 22-26 | The Chi Square Test  
Readings: Chapter 12 | HW 6 Due 2/22    |
| March 1-5      | QUIZ 4 March 1  
Sensitivity and Specificity  
Vital Statistics and Demographic Methods  
Readings: Notes, Chapter 15 | HW 7 Due 3/1     |
| March 8-12     | Life Tables  
Health Survey and the Research Report  
Readings: Chapters 16 & 17 | HW 8 Due 3/8     |

FINAL EXAM: **Wednesday, March 17, 2010 from 1:00 p.m. to 2:50 p.m.**