HLSC 3310.001
Class meeting time and location: W 4:20-6:50, CS-111
Spring 2019
Office Telephone: 361-825-3618 (msg)

Name of Instructor: Martinez
Office: virtual
Office Hours: by appointment
E-Mail: leslie.salge@tamucc.edu

Epidemiology

CATALOG COURSE DESCRIPTION: Introduction to basic concepts, principles and methods of epidemiology with emphasis on prevention and control of public health problems.

DETAILED COURSE DESCRIPTION

Application of epidemiologic methods and procedures to the study of the distribution and determinants of health and diseases, morbidity, injuries, disability, and mortality in populations. Epidemiologic methods for the control of conditions such as infectious and chronic health hazards, and unintentional injuries are discussed. Other topics include quantitative aspects of epidemiology, for example, data sources, measures of morbidity and mortality, evaluation of association and causality, and study design.

REQUIRED COURSE MATERIALS –

Other Readings and Web sites as assigned
Calculator.

EXPECTED OUTCOMES

Upon completion of this course, students are expected to be able to:
1. Discuss the history, philosophy, and uses of epidemiology.
2. List sources of epidemiologic data and define related measures of morbidity and mortality.
3. Define the term descriptive epidemiology and describe the applications of descriptive epidemiology to the health of populations.
4. State what is meant by the terms association and causation.
5. Define the term analytic epidemiology and differentiate among the types of analytic research designs.
6. Define the term evidence-based public health and discuss its applications.
7. Discuss the applications of epidemiology to policy development.
8. Describe applications of epidemiology to outbreak investigation, social and behavioral phenomena, and special topics including work and the environment.

REQUIREMENTS AND EVALUATION
1. **Reading and Participation:** In order to be prepared to participate in class discussions, students are required to complete the reading assignments, before attending class.

2. **Chapter Assignments:** Located in BB9.1 Assignments are posted questions, exercises and required ‘deliverables’ (word documents and PPTs which each group must research, write and present to the class on the assigned date. These major assignments replace a course paper. Read each assignment carefully. Every member of the group must participate in the answer preparation, research and presentation. You must submit the answer documents on the due date to receive credit for this assignment. The group leader must list the names of all group members who adequately participated in the research and preparation of the assignments. No group member receives credit if they fail to contribute to the assignment.

3. **Quizzes.** Five true/false quizzes are available during the course. The purpose of these quizzes is to reinforce terminology and understanding of concepts. Quizzes are available in the Quiz tool with due dates listed for each quiz.

4. **Examinations.** Three chapter examinations are available in the BB9.1 Test and Quiz Tool with due dates listed. A final course comprehensive exam is required.
   a. **Exam #1** covers Chapters 1-3.
   b. **Exam #2** covers Chapters 4-6.
   c. **Exam #3** covers Chapters 7–10.
   d. Medical Terminology Exams.
   e. **Final Comprehensive Exam**

**Web References**

<table>
<thead>
<tr>
<th>Organization/Type of Information</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hippocrates</td>
<td><a href="http://www.classics.mit.edu/Hippocrates/airwatpl.html">www.classics.mit.edu/Hippocrates/airwatpl.html</a></td>
</tr>
<tr>
<td>Demographic and Health Surveys</td>
<td><a href="http://www.measuredhs.com">www.measuredhs.com</a></td>
</tr>
<tr>
<td>John Snow Web site</td>
<td><a href="http://www.johnsnow.org">www.johnsnow.org</a></td>
</tr>
<tr>
<td>Maps of the world</td>
<td><a href="http://www.embassyworld.com/maps">www.embassyworld.com/maps</a></td>
</tr>
<tr>
<td>The Global Fund For AIDS, TB, and</td>
<td><a href="http://www.globalfundatm.org">www.globalfundatm.org</a></td>
</tr>
<tr>
<td>Global Health Council</td>
<td><a href="http://www.globalhealth.org">www.globalhealth.org</a></td>
</tr>
<tr>
<td>The Population Reference Bureau</td>
<td><a href="http://www.prb.org">www.prb.org</a></td>
</tr>
<tr>
<td>UNAIDS</td>
<td><a href="http://www.unaids.org">www.unaids.org</a></td>
</tr>
<tr>
<td>UNICEF</td>
<td><a href="http://www.unicef.org">www.unicef.org</a></td>
</tr>
<tr>
<td>US Centers for Disease Control and</td>
<td><a href="http://www.cdc.gov">www.cdc.gov</a></td>
</tr>
<tr>
<td>Epidemiology</td>
<td><a href="http://www.acependemiology.org">http://www.acependemiology.org</a></td>
</tr>
<tr>
<td>Biostatistics</td>
<td><a href="http://www.biostat.ucsf.edu/epidem/epidem.html">http://www.biostat.ucsf.edu/epidem/epidem.html</a></td>
</tr>
<tr>
<td>Health Care Statistics</td>
<td><a href="http://www.nchcs.org">www.nchcs.org</a></td>
</tr>
</tbody>
</table>
Class Schedule:
This syllabus is based on a 15-week on-line undergraduate course which covers at least one chapter weekly. The Schedule is the course schedule and is in BB9.1. You are responsible to keep up with the course schedule. Be sure to print out the followed for course lesson objectives and schedule.

Course Changes:
Elements of the Course Schedule are subject to change. Any changes will be announced on the Course Announcement Calendar.

Course Policies:
Course communication is via BB9.1. The Professor is available per course mail Monday through Friday. Turn off all cell phones during class. Class lectures are not tape recorded.

Course Assignments must be submitted in the Assignment Drop Box on due dates. One point is deducted for each day that an assignment is late.

If you have a problem preventing you from attending class or participating as expected, e-mail me. As per the Texas A&M University Student Rules and Regulations, the student is responsible for providing evidence to the instructor to substantiate the reason for any absence. See TAMU Student Rules and Regulations (#7 – Attendance) for a complete listing of authorized absences.

Academic Advising: The College of Nursing and Health Sciences require that students consult with an Academic Advisor regarding their degree plan and/or changes to their degree plan. The Academic Advisor will set up a degree plan and indicate plan is active by signing the plan. Once the plan is completed it will be filed in the student’s record. The College's Academic Advising Center is located in Island Hall Room 319. The Undergraduate Academic Advisor is Angelica Santillan at Extension 2461 and the Graduate Academic Advisor at extension 5893.

Class Cancellation: In the event that a class is canceled, the student is expected to do the readings and complete the objectives and quizzes for that day.
**Late Work:** Quizzes and assignments must be submitted by midnight of the due date. Except for excuses related to *force majeure*, late assignments are graded down by two points for each late day.

**College of Nursing and Health Sciences Grading Scale**

A = 89.5 - 100  
B = 89.4 - 82.5  
C = 82.4 - 74.5  
D = 74.4 - 66.5  
F = Below 66.4

**POLICIES:**

**Evaluation Input From Students**

The faculty of the College of Nursing and Health Sciences places great value on evaluative input from students. Evaluation of courses, instructors and clinical facilities provides the College with important data which is used to strengthen the program. Data is analyzed as to trends and themes and is important to curriculum and sequencing decisions. All evaluations for courses posted are online. The online mechanism allows us the opportunity to tabulate and store information in order to analyze trends within the curriculum. Please be assured that this information is secured and not released until after grades are submitted. No names are available to faculty. In order to garner some reliability and validity, the College must have representative data from the student population. That representation, based on the literature, has been set at 70%. The College is anticipating that students will thoughtfully participate in the evaluation process which will assist the faculty with the growth of the program. A link to evaluations will be available on Blackboard toward the end of the semester. Thank you in advance for your assistance with the evaluation process.

**Academic Integrity and Honesty**

It is expected that University students will demonstrate a high level of maturity, self-direction, and ability to manage their own affairs. Students are viewed as individuals who possess the qualities of worth, dignity, and the capacity for self-direction in personal behavior. University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to a penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, forgery, or plagiarism. (Plagiarism is intentionally, knowingly, or carelessly presenting the work of another as one’s own). Please see the following sites for additional information:

- University Student Handbook and Code of Conduct: [http://www.tamucc.edu/~students](http://www.tamucc.edu/~students)
- University catalog related to academic integrity and honesty: [http://catalog.tamucc.edu/](http://catalog.tamucc.edu/)
- University Rules and Procedures: [University Procedure 13.02.99.C3.01 Academic Misconduct Cases](http://www.tamucc.edu/~students)

**Students with Disabilities**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that
provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Disability Services Office at 361.825.5816 or visit the office in CCH 116. If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disabilities Services office for assistance at (361) 825-5816

**Title IX**

As part of the Texas A & M Corpus Christi University policy, pregnant students are urged to contact the Title IX office for facilitation of academic issues impacted by pregnancy, delivery and subsequent complications. Contact information: Mr. Samuel Ramirez, Title IX Coordinator or Ms. Rosie Ruiz, Deputy Title IX Coordinator (825-5826).

**Active Military Duty**

Active duty military personnel, military spouses, and veterans with special circumstances (e.g.: deployment, drill requirements, disabilities) are welcome and encouraged to communicate these, in advance if possible, to the course and clinical instructor.

**Grade Appeals Process**

The College of Nursing and Health Sciences (CONHS) adheres to the University’s student grade appeal procedures described in Section 13.02.99.C2.01 (revised May, 2013) and follows those guidelines. See [http://academicaffairs.tamucc.edu/Rules_Procedures/](http://academicaffairs.tamucc.edu/Rules_Procedures/) for the University procedure and see [http://conhs.tamucc.edu/shb/](http://conhs.tamucc.edu/shb/) for the CONHS process identified in the Student Handbook.

**Support Services**

Students are encouraged to seek faculty assistance in accessing University Services, including tutoring, health services, personal counseling, degree counseling, financial aid, learning resources, job/work placement, career guidance, and computer/technical support/instruction. If a student is interested in other support services provided by the University, the student is encouraged by the College of Nursing and Health Sciences and the University to seek these services.

<table>
<thead>
<tr>
<th>Week</th>
<th>Lesson Title</th>
<th>Course Objective</th>
<th>Lesson Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Overview of Course – BB9.1 Requirements</td>
<td>Introduction and overview of course, syllabus, schedule, grading system.</td>
<td>Complete Syllabus Review Define group membership and group leader assignments Describe course assignments, submissions, due dates, class presentations and grading. <strong>Pretest.</strong></td>
</tr>
<tr>
<td>2</td>
<td>History, Philosophy, and Uses of Epidemiology</td>
<td>Ch. 1 Define epidemiology, its uses and history</td>
<td>Define epidemiology and describe ways in which epidemiology may be considered a liberal arts discipline. Discuss landmarks in the history of epidemiology</td>
</tr>
</tbody>
</table>
| 3 | Epidemiologic Measurements Used to Describe Disease Occurrence | Ch. 2 Explain how measurement is used to describe the occurrence of disease | Describe the uses of epidemiology
| Identify mathematical terms used in epidemiology
| Differentiate between incidence and prevalence
| Explain epidemiologic measures of morbidity and mortality |
| 4 | Data and Additional Measures of Disease Occurrence | Ch. 3 Define and calculate epidemiologic measures | Describe factors that affect the quality of epidemiologic data
| Discuss data sources used in epidemiologic research
| Calculate epidemiologic measures.
| **Exam 1: Chapters 1-3** due Sunday midnight |
| 5 | Descriptive Epidemiology: Patterns of Disease – Person, Place, Time | Ch. 4 Examine descriptive epidemiology | Define descriptive epidemiologic studies and discuss types and uses of descriptive studies.
| Examine the process of epidemiologic inference
| Give examples of variables and how they relate to the distribution of health outcomes. |
| 6 | Association and Causality | Ch. 5 Discuss the role of causality in relation to epidemiologic associations | Illustrate non-causal & causal associations
| Describe methods for displaying data graphically
| List the criteria of causality
| Explain how chance affects epidemiologic associations |
| 7 | Analytic Epidemiology: Types of Study Designs | Ch. 6 Identify types of epidemiologic studies | Examine ways in which study designs differ from one another
| Describe case-control, ecologic, and cohort studies
| Calculate odds ratios, relative risk, and attributable risk
| Give examples of appropriate uses of randomized controlled trials and quasi-experimental designs
| **Exam 2: Chapters 4-6** due Sunday midnight |
| 8 | Epidemiology and the Policy Arena | Ch. 7 Explain how epidemiology relates to public policy | Define the term health policy
| Discuss risk assessment
| Illustrate policies that are applicable to epidemiology
| Discuss the relationship between policy and screening for disease |
| 9 | Infectious Diseases and Outbreak | Ch. 8 Describe modes of transmission of communicable diseases | Describe modes of transmission of communicable diseases
| Identify microbial agents |
| Investigations | and the process for investigating outbreaks | associated with infectious diseases Explain the procedures for investigating infectious disease outbreaks  
**Class Simulation of infectious disease outbreak – group activity online** |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10 Social and Behavioral Epidemiology</td>
<td>Ch. 9 Examine the role of social and behavioral factors in population health and illness</td>
<td>Examine how lifestyle is associated with negative health outcomes Describe the linkage between tobacco use and adverse health outcomes State examples of theory and research in social and behavioral epidemiology</td>
</tr>
<tr>
<td>11 Special Epidemiologic Applications</td>
<td>Ch. 10 Discuss other epidemiologic applications including molecular, genetic, environmental, and occupational</td>
<td>Distinguish between molecular and genetic epidemiology Define environmental epidemiology Illustrate applications of occupational epidemiology Describe the role of epidemiology in the primary prevention of unintentional injuries and violence. <strong>EXAM 3: Chapters 7-10 due Sunday midnight</strong></td>
</tr>
<tr>
<td>12 Medical Terminology</td>
<td>Identify medical terms and match to definitions</td>
<td><strong>Medical Terminology Quiz 1 due Sunday midnight</strong></td>
</tr>
<tr>
<td>13</td>
<td><strong>NO CLASS</strong></td>
<td></td>
</tr>
<tr>
<td>14 Medical Terminology</td>
<td>Identify medical terms and match to definitions</td>
<td><strong>Medical Terminology Quiz 2 due Sunday midnight</strong></td>
</tr>
<tr>
<td>15</td>
<td><strong>NO CLASS</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reading Day</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Final Exam</td>
<td><strong>Epidemiology Final Exam due Friday midnight</strong></td>
</tr>
</tbody>
</table>