COURSE TITLE: Epidemiology of Infectious Disease

COURSE OVERVIEW: This course is a fully online course. Additional information on this structure is provided in the welcome message above. This course is also part of the Master of Public Health degree program and counts as a technical elective in this program.

COURSE COORDINATOR: Justice Mbizo, Dr.PH.

Graduate Teaching Assistant: Thomas Yarbrough, tmy4@students.uwf.edu

CONTACT INFORMATION: jmbizo@uwf.edu or (850) 474-2650

School of Allied Health and Life Sciences, University of West Florida

COMMUNICATION:

1. ALL E-MAILS AND DISCUSSION POSTINGS WILL BE ANSWERED WITHIN 48 HOURS BUT USUALLY LESS, EXCEPT DURING WEEKENDS IN WHICH CASE SUCH POSTINGS OR EMAILS WILL BE RESPONDED TO WITHIN 72 HOURS.
2. ALL ASSIGNMENTS AND EXAMS ARE DUE ON THE DATE INDICATED FOR THAT ASSIGNMENT.
3. ALL ASSIGNMENTS AND EXAM GRADES WILL BE AVAILABLE 7 DAYS AFTER THE DUE DATE
4. Please include both the Instructor and GTA in all e-mail communications.

PREREQUISITES OR COREQUISITES: Those interested in this course or the Master of Public Health Program should contact Mr. Steve Celestial at (850) 474-2885 or scelestial@uwf.edu. Please see the official UWF Catalog.

COURSE DESCRIPTION:
The basic principles of epidemiology as they apply to infectious disease and the impact of infectious disease on human civilization will be addressed. The causes and distribution of current epidemics of infectious disease, including newly emerging and
reemerging diseases, and the approaches being applied to defeat these diseases will be discussed. Offered concurrently with MCB 5273; graduate students will be assigned additional work. Please see the official UWF Catalog.

**COURSE OBJECTIVES AND STUDENT LEARNING OUTCOMES:**
This course meets the following programmatic goals for the School of Allied Health and Life Sciences. Upon completion of this course, students will be able to:

- **Content and Critical Thinking:**
  Students will be expected to apply the basic principles of epidemiology and demonstrate an understanding of the rules governing the occurrence of epidemics of infectious diseases.

- **Communication:**
  Students will be able to describe the contemporary and future importance of infectious diseases on a global scale and the role played by environmental destruction and overpopulation on the success and spread of infectious diseases.
  Students will be able to discuss the most important infectious diseases affecting man, and of the microbial, host and environmental factors that contribute to such epidemics.
  Fulfillment of these goals will be assessed as described below, in quizzes and assignments in which students will demonstrate their ability to apply the principles of infectious disease epidemiology and the rules governing the occurrence of epidemics of infectious disease. For the purposes of programmatic assessment, the following mastery levels will be used:

**MPH COMPETENCIES/STUDENT LEARNING OUTCOMES (SACS Objectives):**
Upon graduation a student with an MPH should be able to:

- **EPIDEMIOLOGY:**
  o Identify key sources of data for epidemiologic purposes.
  o Identify the principles and limitations of public health screening programs.
  o Describe a public health problem in terms of magnitude, person, time and place.
  o Apply the basic terminology and definitions of epidemiology.
  o Draw appropriate inferences from epidemiologic data.

- **PUBLIC HEALTH BIOLOGY -cross-cutting**
  o Specify the role of the immune system in population health.
  o Explain the biological and molecular basis of public health.
  o Explain the role of biology in the ecological model of population-based health.
  o Explain the role of biology in the ecological model of population-based health.
  o Articulate how biological, chemical and physical agents affect human health.
  o Explain how genetics and genomics affect disease processes and public health policy and practice.
  o Integrate general biological and molecular concepts into public health.
o Apply biological principles to development and implementation of disease prevention, control, or management programs.

- **SKILL MASTERY LEVEL CONTENT AND CRITICAL THINKING COMMUNICATION**
  
  **Very Good-Excellent** Student consistently shows clarity of understanding of, and an ability to apply, the principles of infectious disease epidemiology and the rules governing the occurrence of outbreaks of infectious disease. Student shows clear expression of ideas in writing with proper spelling and grammar and an ability to integrate their ideas into the literature on infectious disease epidemiology.

  **Satisfactory** Student demonstrates a basic level of understanding of, and ability to apply, the principles of infectious disease epidemiology and the rules governing the occurrence of outbreaks of infectious disease. Student demonstrates only adequate implementation of above Very Good-Excellent characteristics.

  **Unsatisfactory** Student has a critical inability to grasp and apply the principles of infectious disease epidemiology and the rules governing the occurrence of outbreaks of infectious disease. Student maintains a lack of adherence to technical writing style and skills, uses improper grammar and spelling, and has an inability to clearly express ideas in writing and to integrate those ideas into the literature on infectious disease epidemiology.

**TOPICS COVERED:**

The first half of this course will deal with an introduction to epidemiology of infectious disease. This group of lectures is designed to provide some history of the impact of infectious diseases on human civilization and to introduce you to the basic principles of epidemiology as they apply to infectious diseases. Approximately, the second half of the course will cover the epidemiology of specific infectious diseases, with emphasis on current epidemics. The latest epidemics occurring around the world will be studied within a set of "outbreak assignments". Instructions for accessing these assignments and associated reports on current outbreaks and the specific disease targeted will be provided within the modules. Material from these case studies will be included in exams and/or exercises. In addition to the exams and the "outbreak assignments" you will be provided with a set of "disease detective" exercises in which an outbreak scenario will be provided and you will answer the questions posed about the causative agent and the epidemic (see below for grading).

**Tentative Schedule**

- Introduction to Epidemiology of Infectious Disease
- The Historical Foundations of Epidemiology
- Agents of Illness
- Host Factors and Their Influence on Disease
- Environmental Factors and Their Influence on Disease
- The Measurement of Disease and Death
- Epidemiologic Methodology
The remainder of the course will deal with currently significant epidemic infectious diseases and the application of the "rules" of infectious disease epidemiology to current disease outbreaks.

REQUIRED TEXTS/MATERIALS: There is no required text for this course

SPECIAL TECHNOLOGY UTILIZED BY STUDENTS: (beyond baseline requirements of e-mail and word processing)

- Email, e-learning, and web-surfing.
  Students are encouraged to complete this course utilizing the equivalent of a cable-speed modem. Completing the course modules via a telephone dial-up connection will require significant download times for larger audio-visual content.

REFERENCES/BIBLIOGRAPHY:
N/A

GRADING/EVALUATION:
There will be Four non-cumulative exams consisting of multiple choice/true-false questions and short answer (3 or 4 sentences) questions. There are NO MAKEUP exams given in this course. Each exam will count 20% of your course grade (total for the 4 exams = 80% of course grade). "Disease Outbreak assignments" will be provided in modules in which infectious disease outbreaks will be listed with a URL for each, followed by sites where you will read additional information about the disease in question. Information from these "outbreak assignments" will be covered either in exams or in the exercises. You will be given 4 "disease detective" exercises during the semester. These are scenarios describing disease outbreaks which you will research using the Web to diagnose the diseases in question and provide literature-based answers to the questions posed. For these exercises, you may use any resource available to you on the Web to answer the questions but YOU must answer those questions without input from your classmates. Each exercise will count 5% of your course grade (total for the 4 "disease detective" exercises = 20% of course grade). There is no final exam in this course. Thus, your final grade in this course will be the average of your score on the 4 exams plus the average of your scores on the 4 exercises. For exams, you will not use any materials other than your personal knowledge to answer the questions. Any alternative method of answering these questions is inappropriate and your grade in the course will be affected.

Undergraduate Grade Scheme:

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<tr>
<th>Grade</th>
<th>Range</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>95-100</td>
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<tr>
<td>A-</td>
<td>90-94</td>
</tr>
<tr>
<td>B+</td>
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<td>D</td>
<td>55-59</td>
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<tr>
<td>F</td>
<td>&lt; 55</td>
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Graduate Grade Scheme:

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\begin{align*}
A &= 91 - 100 & B &= 81 - 90 & C &= 71 - 80 & F &= < 71
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Class attendance: In view of the fact that MOST questions on ALL exams come from the online materials and notes, which also includes discussion of current global infectious disease outbreaks, it is unlikely that you will pass this course if you don’t regularly login to the course.

Graduate Students: A graduate student enrolled in this course for credit will be given a set of review articles on infectious diseases which will be covered by a separate exam attached to the 3rd exam in the course in which several essay questions relating to these articles will be answered. The student’s grade on this separate section of the exam will be averaged in with the score they achieve on the main body of exam #3.

EXPECTATIONS ABOUT OUTBREAK ASSIGNMENTS: In terms of the breadth of coverage of information in the outbreak assignments, you should understand the biology/epidemiology of the disease (transmission mechanisms, vectors/vehicles if any, risk factors, geographic distribution and causes as they relate to the specific outbreaks cited), the primary pathology (signs and symptoms for clinical diagnosis, and consequences of infection), and certainly any of the information provided in the specific outbreaks described in ProMed (which are usually quite brief).

EXPECTATIONS FOR ACADEMIC CONDUCT/PLAGIARISM POLICY:

- Academic Conduct Policy [Web]
- Plagiarism Policy [ PDF]
- Student Handbook [ PDF]

It is the philosophy of The University of West Florida that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

In addition, any behavior that interferes with the conduct of a class is classified as disruptive behavior and will not be tolerated. Although not exhaustive, examples of disruptive behavior would include: inappropriate or threatening online postings or e-mails, etc.

QUALITY ASSURANCE:
This course is reviewed during the semester and in an ongoing basis for quality by
assessment personnel within the School of Allied Health and Life Sciences (SAHLS) to meet national standards established by the Southern Association of Colleges and Schools, the Council on Education for Public Health, and/or to address quality enhancement initiatives of SAHLS. Student feedback is also vital to this process. When reviewing our programs, our accrediting partners expect to see 100% participation in the State-of-Florida mandated SUSSAI (State University System Student Assessment of Instruction) evaluations. Thus, at the end of the semester, we need to hear from the folks that enjoyed the class and from the folks that have suggestions for improvement (ok, and from the folks that want to fill out the survey as quickly as possible with no comments to share!). BUT, we do need to hear from each and every student in this class, and we value your input.

When SUSSAI evaluations are ready for you to complete, you will see a News posting in the course. Please take a few minutes to complete this anonymous, brief web-based evaluation on this course.

If you need help, please contact Connie Works at (850) 474-3080 or cworks@uwf.edu for assistance.

Please be assured that all evaluations that are completed online are of a confidential matter. Your name, social security number, and e-mail address will not be revealed to your instructor, department, or college. Only one evaluation per course per student can be submitted. Please do not delay completing the evaluation when the time approaches. Due to the significance of this information, I will not be able to pre-release grades in eLearning if we are not close to the 100% participation goal before finals week. Thank you!

ONLINE TEST TAKING GUIDELINES:
Please do not begin any timed, online exam in the course that may overlap with the eLearning maintenance window. The eLearning maintenance window runs 3:00-6:00 am CST (Central Standard Time) each day. If you initiate an exam that overlaps with this time and experience any technical errors, your recorded score is likely to be close to 0 for such an attempt. There are no exceptions to this policy.

If you experience any other technical problems or errors during any timed exam that does not overlap with the eLearning maintenance window, you are required to notify the Helpdesk immediately at helpdesk@uwf.edu or (850) 474-2075. Failure to contact the HelpDesk to report the problem will result in a grade of 0 automatically being assigned.

If you are unable to get immediate assistance from the HelpDesk during the exam, but have documented the problem in an email or voice mail, you may attempt to restart the exam using the same browser, or attempt to re-enter the exam with another browser. If you are still unable to restart the exam and continue with saving, please note that for your final submitted score to be recorded, you MUST still prove that you documented the original technical problem with the HelpDesk via helpdesk@uwf.edu or (850) 474-2075. Failure to do so will result in an automatic grade of 0 being assigned.
ASSISTANCE:
Students with special needs who require specific examination-related or other course-related accommodations should contact Disabled Student Services (DSS), dss@uwf.edu, (850) 474-2387. DSS will provide the student with a letter for the instructor that will specify any recommended accommodations. Every effort will be made to accommodate the special needs of disabled students. Please inform the instructor privately during the first week of class to indicate your particular needs. All such accommodations are officially arranged through the Office for Disabled Student Services and a letter from this office must accompany your request.

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