| **EPBI 6335** | **Epidemiology of Infectious Disease** | **Credit Hours: 3** |

Semester: Summer 2024
Instructor: Christian R. Alvarado
        Office: H246
        Email: Christian.Alvarado@uttyler.edu and calvarado@uttyler.edu
        Office Hours: Tuesday/Thursday 11-12pm (office H246) or by appointment (please email)

Format: Fully online – No Required Meetings

Course Description: This course is designed to provide students with an overview of the principles and practices of infectious diseases epidemiology, with a focus on how the presence and control of communicable diseases affect public health locally, nationally, and internationally. Topics to be covered include: 1) general principles of infectious diseases epidemiology, including outbreak investigation, surveillance, analysis of infectious diseases data and laboratory testing of specimens; 2) major modes of infectious disease transmission, including airborne, food and water, zoonotic, insect vector, blood and sexual transmission; 3) different control strategies for infectious diseases, including infection control, antimicrobial management, immunization, risk factor modification and screening; and 4) the practical application of epidemiologic tools for the understanding and control of infectious diseases

Prerequisite: PBHL 5342 (Principles of Epidemiology)   **Co-requisite:** N/A

Course Objectives:
By the end of the course students should be able to:
- After taking the course in Infectious Diseases Epidemiology students will be able to describe and understand the main Epidemiological characteristics of the Major infectious diseases of Humans.
- The students will be able to describe how these Epidemiological characteristics can be utilized to develop and evaluate strategies to prevent epidemics or endemic transmission of the major infections of humans.
- The students will be able to develop criteria to be used in the investigation of a new Emerging or Re-emerging Infectious disease to understand the critical Epidemiologic features of this disease that could be used to develop prevention and control programs. Epidemiological characteristics such as incubation period, Infectious period, means of transmission and reservoir of these infectious diseases will be evaluated

MPH Generalist Program Competencies:
The course objectives listed above address the following CEPH &/or MPH program competencies highlighted in **BOLD.**

CEPH Competencies

Evidence-based Approaches to Public Health

1. **Apply epidemiological methods to settings and situations in public health practice.**
2. Select quantitative and qualitative data collection methods appropriate for a given public health context.
3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming, and software, as appropriate.
4. **Interpret results of data analysis for public health research, policy, or practice.**

Public Health and Health Care Systems

5. Compare the organization, structure, and function of health care, public health, and regulatory systems across national and international settings.
6. Discuss the means by which structural bias, social inequities, and racism undermine health and create challenges to achieving health equity at organizational, community and systemic levels.

Planning & Management to Promote Health

7. Assess population needs, assets, and capacities that affect communities' health.
8. Apply awareness of cultural values and practices to the design, implementation, or critique of public health policies or programs.
9. Design a population-based policy, program, project, or intervention.
10. Explain basic principles and tools of budget and resource management.
11. Select methods to evaluate public health programs.

Policy in Public Health

12. Discuss the policy-making process, including the roles of ethics and evidence.
13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes.
14. Advocate for political, social, or economic policies and programs that will improve health in diverse populations.
15. Evaluate policies for their impact on public health and health equity.

Leadership

16. **Apply leadership and/or management principles to address a relevant issue.**

17. Apply negotiation and mediation skills to address organizational or community challenges.

Communication
18. Select communication strategies for different audiences and sectors. 19. Communicate audience-appropriate (i.e., non-academic, non-peer audience) public health content, both in writing and through oral presentation. 20. Describe the importance of cultural competence in communicating public health content.

Interprofessional and/or Intersectoral Practice
21. Integrate perspectives from other sectors and/or professions to promote and advance population health.

Systems Thinking
22. Apply a systems thinking tool to visually represent a public health issue in a format other than standard narrative.

UT Tyler MPH Program Competencies
1. Utilize community assessment and analysis tools to address factors that contribute to disparities in rural populations. 2. Develop a risk assessment and management plan relevant to PH programs and services. 3. Develop strategies for obtaining resources for PH programs, projects, and services. 4. Evaluate major environmental laws and their effects on environmental factors in health. 5. Examine occupation as a social determinant of health

Course Assessments:

Discussion Board: Every student will be interacting using the discussion board. Each week a new discussion board topic will be made available. In the discussion board, you will have opportunities to post responses to this week's discussion question. You will also be posting a comment to someone else's response. You need to post a response and comment on someone's post to receive full credit for Participation for that week.

MPH Competency #1, & 4

Quizzes: 4 quizzes will be assigned to students in weeks 3, 6, 9, and 12. Each quiz will be worth 10% of your grade.
MPH Competency #1, & 4

Final Paper: Students are expected to select an infectious disease of their choice. Discuss the main features of the infectious disease – including at least one instance of an outbreak that occurred in the past, and evaluating the best methods to respond to a future outbreak. (*12pt font; Calibri or Times New Roman; 3-5 pages double spaced; AMA citations*)
MPH Competency #1, 4, & 16

Final Presentation: Students are expected to record a 10-minute presentation of their Final Paper topic. The presentation should highlight the main findings of the paper. The PowerPoint presentation should be attached and uploaded to CANVAS.
MPH Competency #1, 4, & 16

Overall Grading Structure:
10% - Participation (Discussion Board)
40% - Quizzes
35% - Final Paper
15% - Final Presentation

Textbook:
Kenrad E. Nelson & Carolyn Masters Williams. *Infectious Disease Epidemiology: Theory and Practice.* Third Edition. Jones and Bartlett Publishers, 2013.

Course Schedule:

Week	Dates	Readings	Assignments and Assessments
Week 1	05/13-05/19	Chapters 1-3	Discussion Board 1
Week 2	05/20-05/26	Chapters 4, 5	Discussion Board 2
Week 3	05/27-06/02	Chapters 6, 7	Quiz 1 & Discussion Board 3
Week 4	06/03-06/09	Chapters 8-10	Discussion Board 4
Week 5	06/10-06/16	Chapters 11, 12	Discussion Board 5
Week 6	06/17-06/23	Chapters 13, 14	Quiz 2 & Discussion Board 6

Week 7	06/24-06/30	Chapters 15-17	Discussion Board 7
Week 8	07/01-07/07	Chapters 18, 19	Discussion Board 8
Week 9	07/08-07/14	Chapters 20, 21	Quiz 3 & Discussion Board 9
Week 10	07/15-07/21	Chapters 22-24	Discussion Board 10
Week 11	07/22-07/28	Chapters 25-26	Discussion Board 11
Week 12	07/29-08/04	Chapters 27, 28	Quiz 4 & Discussion Board 11
Week 13	**08/05-08/11**	**No Required Readings**	**Final Paper & Final Presentation (Due 08/09)**

Attendance/ Participation: Attendance/Participation will be assessed based on your Discussion Board Posts. If a student misses a discussion post, deductions will be made accordingly.

Email Correspondence: All email correspondence will be through the UTHSCT email system. Personal email accounts will not be used for any classrelated matters (ex. assignments, absence notifications, grades, etc.). All students are responsible for checking their UT-Tyler/UTHSCT email accounts regularly.

Late Assignments/ Assessments: Students need to contact the Professor if they anticipate submitting an assignment late. Any late assignments will be receive a grade of **0**. This policy includes discussion board posts. Reasonable accommodations will be made under special circumstances. If you need special accommodations, you must contact the Professor **BEFORE** the due date for the assignment.

Academic Integrity: Any student who commits an act of scholastic dishonesty is subject to discipline. 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.

Cheating

Dishonesty of any kind involving examinations, assignments, alteration of records, wrongful possession of examinations, and unpermitted submission of duplicate papers for multiple classes or unauthorized use of keys to examinations is considered cheating. Cheating includes but is not limited to:

- • Using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class.
- • Falsifying or inventing any information, including citations, on an assigned exercise.
- • Helping or attempting to help another in an act of cheating or plagiarism.

Plagiarism

Plagiarism is presenting the words or ideas of another person as if they were your own. Materials, even ideas, borrowed from others necessitate full and complete acknowledgment of the original authors. Offering the work of another as one's own is plagiarism and is unacceptable in the academic community. A lack of adequate recognition constitutes plagiarism, whether it utilizes a few sentences, whole paragraphs, articles, books, audio-visual materials, or even the writing of a fellow student. In addition, the presentation of material gathered, assembled, or formatted by others as one's own is also plagiarism. Because the university takes such misconduct very seriously, the student is urged to carefully read university policies on Misconduct in Research and Other Scholarly Activity 05.00. Examples of plagiarism are:

> • Submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another.
> • Submitting a work that has been purchased or otherwise obtained from an Internet source or another source.
> • Incorporating the words or ideas of an author into one's paper without giving the author due credit.

Adding/Dropping:

The official deadline for adding and dropping courses is as published in the academic calendar (November 4th). However, students are strongly encouraged to meet with their graduate advisor or the Program Coordinator prior to adding/dropping courses. Each student is responsible for their own enrollment status with the university. The link to the academic calendar 2023-2024 can be found using the following link: 2023-24 Academic Calendar (uttyler.edu)

Disability Accommodations:

UTHSCT abides by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act, which mandate reasonable accommodations be provided for students with documented disabilities. If you have a disability and may require some type of instructional and/or examination accommodations, please contact me early in the semester so that I can provide or facilitate provision of accommodations you may need. If you have not already done so, you will need to register with the Student Services Office (located on the UT Tyler Campus). You may call 903-566-7079 for more information.

Student Absence Due to Religious Observance:

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second-class meeting of the semester.

Emergency Exits and Evacuation:

Everyone is required to exit the building when a fire alarm goes off. Follow you instructor's directions regarding the appropriate exit or action. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not re-enter the building unless given permission by the Health Center Police or Fire Department.

Technical Support:

If you experience technical problems or have a technical question about this course, you can obtain assistance by emailing me at Christian.Alvarado@uthct.edu or calling the Help Desk at 903.877.7700.