College of Micronesia-FSM
Course Outline

GENERAL INFORMATION:

Course title: PH 111 Introduction to Basic Epidemiology and Biostatistics		
Course owner by program: Health Sciences/ASDPH		
Campus: Kosrae , National	**Initiator:** Frehiwot Teshome	**Date:** August 2025
Course description: This course introduces students to the core principles and methods of epidemiology as used in public health practice. Topics include measures of disease frequency, study design, association and causation, and outbreak investigation. Students will learn how to critically assess epidemiological research and apply basic methods to analyze population health data. Emphasis is placed on real-world applications, including surveillance, screening, and prevention strategies.		

COURSE HOURS/CREDITS:

	Hours per Week		No. of Weeks		Total Hours		Semester Credits
Lecture	3	x	16	=	48 /16	=	3
Laboratory		x		=		=	
Workshop		x		=		=	
Co-op		x		=		=	
				Total Semester Credits			3

PURPOSE OF COURSE:

[X] Degree requirement
[ ] Degree elective
[ ] Certificate
[ ] Other

PREREQUISITES: PH/MS 109, PH 101(could be taken concurrently), EN 120a (Recommended)

PSLOs OF OTHER PROGRAMS THIS COURSE MEETS:

PSLO#	Program

CC Chair signature: _____ **Date recommended:** _02/10/2026_

VPIA signature: _____ **Date approved:** 2/20/2026

1) INSTITUTIONAL STUDENT LEARNING OUTCOMES

[ ]	1. **Effective oral communication**: capacity to deliver prepared, purposeful presentations designed to increase knowledge, to foster understanding, or to promote change in the listeners' attitudes, values, beliefs, or behaviors.
[ ]	2. **Effective written communication**: development and expression of ideas in writing through work in many genres and styles, utilizing different writing technologies, and mixing texts, data, and images through iterative experiences across the curriculum.
[X]	3. **Critical thinking**: a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.
[X]	4. **Problem solving**: capacity to design, evaluate, and implement a strategy to answer an open-ended question or achieve a desired goal.
[ ]	5. **Intercultural knowledge and competence**: a set of cognitive, affective, and behavioral skills and characteristics that support effective and appropriate interaction in a variety of cultural contexts.
[X]	6. **Information literacy**: the ability to know when there is a need for information, to be able to identify, locate, evaluate, and effectively and responsibly use and share that information for the problem at hand.
[ ]	7. **Foundations and skills for life-long learning**: purposeful learning activity, undertaken on an ongoing basis with the aim of improving knowledge, skills, and competence.
[X]	8. **Quantitative Reasoning**: ability to reason and solve quantitative problems from a wide array of authentic contexts and everyday life situations; comprehends and can create sophisticated arguments supported by quantitative evidence and can clearly communicate those arguments in a variety of formats.

2) PROGRAM STUDENT LEARNING OUTCOMES (PSLOs): The student will be able to:

1. Deliver effective public health presentations.
2. Develop well-researched written public health reports.
3. Analyze public health data using critical thinking.
4. Design and evaluate community health solutions.
5. Apply cultural competence in public health interventions.
6. Utilize credible sources and research for public health decision-making.
7. Engage in professional development for lifelong learning.
8. Apply quantitative reasoning to epidemiological and statistical data.

3) COURSE STUDENT LEARNING OUTCOMES (CSLOs) (General): The student will be able to:

1. Define key epidemiological terms and explain core principles of epidemiology.
2. Calculate and interpret basic epidemiological measures.
3. Evaluate epidemiological study designs and identify strengths and limitations.
4. Apply epidemiological reasoning to investigate and address public health problems.

4) COURSE STUDENT LEARNING OUTCOMES (CSLOs) (Specific): The student will be able to:

CSLO (General) 1: Define key epidemiological terms and explain core principles of epidemiology.			
Student Learning Outcome (specific)	ISLO	PSLO	Assessment Strategies
1.1 Define epidemiology 1.2 Explain the role of Epidemiology in public health	6	6	Students will do a presentation on epidemiology and describe the role of epidemiology on Public Health. A performance rubric will be used to evaluate the students.
CSLO (General) 2: Calculate and interpret basic epidemiological measures.			
Student Learning Outcome (specific)	ISLO	PSLO	Assessment Strategies
2.1 Describe and compute commonly used morbidity (incidence and prevalence) and mortality rates (crude and specific death rates) 2.2 Explain the types of data 2.3 Explain appropriate data display techniques to present analyzed data	8	8	Students will work on a Problem set to define and calculate morbidity and mortality related rates. Students will have an exam explaining the basic epidemiological terms and measures. Students will identify appropriate data display methods and do a presentation to be graded with a rubric.
CSLO (General) 3: Evaluate epidemiological study designs and identify strengths and limitations.			
Student Learning Outcome (specific)	ISLO	PSLO	Assessment Strategies
3.1 Compare and contrast major epidemiological study designs 3.2 Define and explain the role of statistics in health care 3.3 List the categories of statistics and their specific purpose and applications.	3*	3	Students will submit a written report comparing different epidemiological study designs to be graded with a checklist. Students will have an exam on the definition and the role of statistics in health care. Students will have a test listing the categories of statistics and explaining its uses.
CSLO (General) 4: Apply epidemiological reasoning to investigate and address public health problems.			

Student Learning Outcome (specific)	ISLO	PSLO	Assessment Strategies
4.1 Explain the steps of an outbreak investigation and its management	4	4	Students will have a written assignment explaining the steps of an Outbreak investigation & management to be graded with a rubric.
4.2 Determine the steps of risk assessment and risk management and give examples.			Students will do a presentation on a public health risk assessment and management steps to be graded with a rubric.

5) COURSE CONTENT:

1. Introduction to Epidemiology and Public Health
2. Measures of Disease Frequency
3. Descriptive Epidemiology
4. Analytical Epidemiology: Study designs
5. Measures of Association and impact
7. Screening and Surveillance
8. Outbreak investigation Methods
9. Interpreting Epidemiologic Findings
10. Applied Epidemiology in Public Health Interventions
11. Communicating Epidemiology Findings
12. Current Topics in Epidemiology

VI. METHOD(S) OF INSTRUCTION:

[X] Lecture
[ ] Laboratory
[ ] Audio visual
[ ] Other: online
[X] Cooperative learning groups
[X] In-class exercises
[X] Demonstrations

VII. RECOMMENDED TEXTBOOK AND ONLINE SOURCE

Macera, C., Shaffer, R., & Shaffer, P. (2013). Introduction to Epidemiology: Distribution and Determinants of Disease, 1st Edition, Cengage Learning INC, or latest edition.

VIII. REFERENCE MATERIALS:

OpenEpi: Open-Source Epidemiologic Statistics for Public Health: https://www.openepi.com/
CDC. Principles of Epidemiology in Public Health Practice (CDC):
https://archive.cdc.gov/#/details?url=https://www.cdc.gov/csels/dsepd/ss1978/index.html

IX. INSTRUCTIONAL COSTS: None

X. EVALUATION: As a summative assessment a comprehensive Exam is to be used. Students must have a grade of 70%[C] or better to pass this course.

XI. CREDIT BY EXAMINATION: None