

College of Micronesia – FSM

COURSE OUTLINE COVER PAGE

Title: Introduction to Information Systems
For Health Managers

Department No. PH 051

Course Description: This course underscores the methodological importance of accurate, relevant, timely and complete data for effective and evidence-based decision-making by Health Managers. A wide range of data sets, from the traditional morbidity/ mortality data through those on services utilization and resource monitoring, are presented and analyzed. Elements of data display are introduced. Epidemiology provides the basis for surveillance, planning and generation of health information systems which are an important component of health care. The course will discuss the epidemiological concepts of health and measures of health, and introduces screening, epidemics evaluation and study designs.

Course Prepared By: Dr Giuseppe Cuboni

Campus: National

	Hours per Week		No. of Week		Total Hours		Semester Credits
Lecture	3	x	16	=	48	=	3
Total Semester Credits							3

Purpose of Course:

Degree Requirement
Degree Elective
Certificate
Other

X

Prerequisite:

None

Signature Chairperson, Curriculum Committee

Date Approved by Committee

Signature, President, COM-FSM

Date Approved by President

College of Micronesia – FSM

COURSE OUTLINE**I. LEARNING OUTCOMES****A. Program Learning Outcomes:**

1. Recognize and describe basic health science facts and principles;
2. Discuss the essential public health functions;
3. Describe adult, children and family health issues;
4. Demonstrate an understanding and practice of some generic public health competencies;
5. Demonstrate proper public health skills for public health practice in the community as a state or local junior public health officer;
6. Demonstrate community and cultural sensitivity in the health care environment;
7. Describe the determinants and problems of the health of adults, children and families;
8. Demonstrate proper cardio-pulmonary resuscitation (CPR) and first aid techniques;
9. Demonstrate the ability to make a community diagnosis based on the determinants of health;
10. Identify good public health practice; and
11. Have had work experience at a public health facility.

B. Course Learning Outcomes:

Upon completion of the course students will be able to:

1. Critically analyze current Health Information Systems (HIS) and their detailed features
 - 1.1 Describe a District Health Management Team (DHMT) and its areas of responsibility
 - 1.2 Distinguish between health data and health information
 - 1.3 Identify and briefly describe sources of health data and information
 - 1.4 Define the term *community diagnosis*; distinguish between *community health program* and *clinical medicine* in terms of the functions they fulfill
 - 1.5 Outline the steps that DHMT would follow to perform its health planning and management tasks
 - 1.6 Identify epidemiological approaches to produce health information
 - 1.7 Discuss patterns of morbidity, mortality, and important demographic rates
 - 1.8 Prepare for a Health Status Assessment
 - 1.9 Discuss advantages and limitations of HIS
2. Design, field-test and implement an HIS for an assigned or proposed scope
 - 2.1 Choose relevant health-related events (morbidity and/or mortality) to measure population health status
 - 2.2 Describe various tools for health measurement
 - 2.3 Discuss the importance and need for accurate and meaningful data and data sources

- 2.4 Define an epidemic and how to confirm it
 - 2.5 Describe the main features of an epidemic
 - 2.6 Outline the steps to carry out an environmental assessment and guide the institution of relevant epidemic control measures
 - 2.7 Manage an epidemic checklist and draw up an epidemic investigation report
 - 2.8 Describe the purposes and different types of epidemiological surveys
 - 2.9 Explain the steps involved, tools to be used, advantages and limitations of population health surveys
- 3. Demonstrate familiarity with techniques of measurements of health status
 - 3.1 Explain with examples the four phases of epidemiology
 - 3.2 Provide examples of case definitions and use these to count the health-related events of interest
 - 3.3 Calculate and compare rates of health-related events between different populations
 - 3.4 Discuss the types of health indicators and their use
 - 3.5 Define these terms: *determinants, risk factors, mortality rate, morbidity rate, health status, prevalence, incidence* and *life expectancy*
 - 3.6 Design a questionnaire or data collection form for a health survey
 - 3.7 Describe different data recording forms and explain how to use them
 - 3.8 Identify and explain the basic processing tools for health data analysis
 - 4. Study, discuss, and interpret the results of a sample HIS, and reach evidence-based conclusions for possible health interventions/ actions
 - 4.1 Consolidate all the skills acquired during the course into the comprehensive function/ task of using health information for evidence-based action
 - 4.2 Identify data necessary for planning
 - 5. Interpret health information in disease prevention and control
 - 5.1 Identify appropriate data display methods/ tools and be able to use them
 - 5.2 Become conversant with different health information formats for data analysis
 - 5.3 Explain the critical value of information dissemination and feedback
 - 5.4 Discuss the need for information sharing
 - 5.5 Interpret analyzed data in a univocal way

II. COURSE CONTENTS

A. District Health Management

- 1) District and District Health Management Team (DHMT)
- 2) Responsibility of DHMT
- 3) Sources of health data and information
- 4) Community diagnosis; community health program; and clinical medicine
- 5) Health planning and management cycle task

B. Epidemiological Principles

- 1) Phases of epidemiology

- 2) Case definitions
- 3) Comparing health status between different populations
- 4) Health indicators – types and applications
- 5) Disease determinants, risk factors, mortality rate, morbidity rate, health status, prevalence, incidence and life expectancy

C. The District Population

- 1) Population census, population density, population pyramid, important groups in district population
- 2) Health status assessment
- 3) Application of health parameters and indicators
- 4) Patterns of morbidity, mortality, and important demographic rates/ measures

D. Health Information

- 1) Health-related events (morbidity and/or mortality) for measuring population health status
- 2) Tools for health measurement

E. Health Information Systems

- 1) Relevance, importance and need for accurate and meaningful data and data sources
- 2) Advantages and limitations of health information systems

F. Identification, Investigation and Control of an Epidemic

- 1) Disease epidemic and its features
- 2) Environmental assessment and other relevant epidemic control measures
- 3) Epidemic investigation report and management of epidemic checklist

G. Health Surveys

- 1) Population health surveys: types, purposes, aspects, tools to be used
- 2) Strengths and limitations of population health surveys

H. Fieldwork Organization for Health Data Collection

- 1) The need of careful, detailed preparations for a health survey
- 2) Importance of correct preparations for surveys

I. Data Recording and Coding

- 1) Reporting forms - design, test and user guidance
- 2) Forms: how to design and use them

J. Processing and Analyzing Data

- 1) Correct use of gathered information
- 2) Basic processing tools for health data analysis

K. Health Information Formats, Dissemination and Reporting of Health Information

- 1) Data display methods/ tools
- 2) Health information formats for data analysis

- 3) Interpretation of data analysis outputs
- 4) Data dissemination, information sharing and feedback

L. Health Information and District Planning

- 1) Planning for Health - Why planning and how to plan
- 2) Data necessary for planning – How to produce high quality data

III. TEXTBOOK

Vaughan JP., Morrow RH. (1989) Manual of Epidemiology for District Health Management – edited by WHO, Geneva. (ISBN-13: 978-9241544047)

IV. REFERENCE MATERIALS

1. Finau SA., Tukuitonga C., Finau E. “Chapter 6. HEALTH and Pacificans” – *A manual for Community Workers*, Volume 2 of the Pacifican Health Series.
2. O’Carroll PW. et al. (2002) Public Health Informatics and Information Systems. Health Informatics Series, CDC, Atlanta. (ISBN-13: 978-0387954745)

V. REQUIRED COURSE MATERIALS

Prescribed textbook. Furthermore, perusal of reference materials is encouraged.

VI. METHODS OF INSTRUCTION

1. Lectures: in-class lectures, followed by group discussions and activities relevant to the topics presented.
2. Group presentations: students’ presentations on selected readings and group discussion/ activities.

VII. INSTRUCTIONAL MATERIALS/EQUIPMENT AND COST FOR THE COLLEGE

There is no special instructional material/ equipment or field trips required for this course.

VIII. EVALUATION

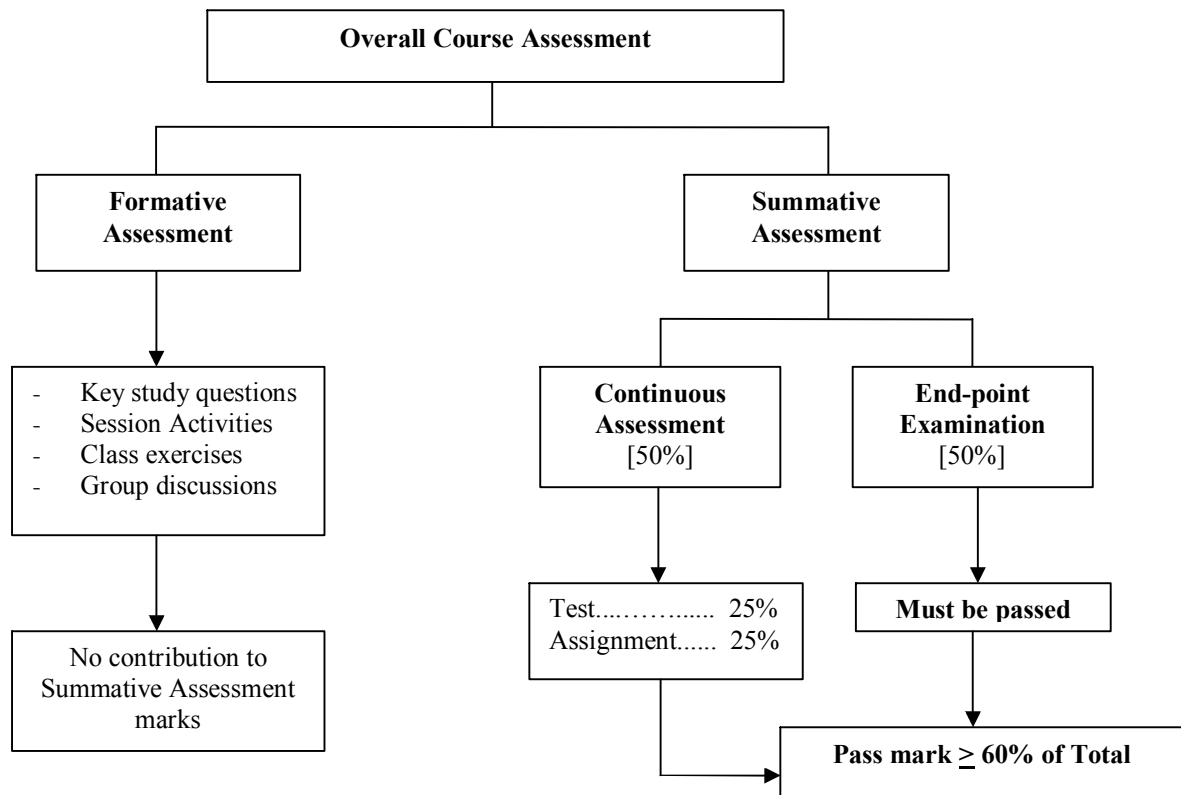
A. Grading scheme: there are two components: Formative and Summative Assessment.

☐ **Formative Assessment:** This type of assessment evaluates how students progress in class. With feedback from the Instructor, the student would be able to answer these questions: *Am I doing well in class? What have I missed? What should I concentrate more on?* This assessment will take the form of tests and quizzes, with or without prior notice.

☐ **Summative Assessment:** This type of assessment implies that the marks a student gets contribute towards the final grade. For this course, this assessment consists of the following:

1. **Continuous Assessment (50%):** comprises 1 *written Test* and one *Assignment*. Each of these contributes 25% to the total course assessment.
2. **Final Exam (50%):** a 3-hour written paper, at the end of the course.

The Assessment is illustrated in the following diagram:



B. Grading system

Grade	Percentage	Outcome
A	90-100%	Superior
B	80-89%	Above Average
C	70-79%	Average
D	60-69%	Passing
F	Below 60%	Failure

IX. CREDIT-BY-EXAMINATION

None.

X. ATTENDANCE POLICY

As per college policy.

XI. ACADEMIC HONESTY POLICY

As per college policy.