

# C-ID Descriptor

## Investigating Disease Outbreaks and Epidemics

### Descriptor Details

- **Descriptor Title:** Investigating Disease Outbreaks and Epidemics
- **C-ID Number:** 108
- **Units:** 3
- **Date of Last Revision:** 9/18/2023 11:25:30 AM PDT

### General Description

This introductory course examines the social, cultural, political, and historical impact of epidemics and disease outbreaks. It will include the applications of epidemiology to public health practice and our society, and the study of the ethical and social context of epidemiology through great works of literature and selected historical narratives.

### Prerequisites

No information provided

### Corequisites

No information provided

### Advisories

English, one level below transfer (i.e., eligibility for English composition (C-ID ENGL 100) and reading a course with an exiting skill of ability to read a college level text.

### Content

1. Epidemiology

- A. Role and relevance of as a tool to address public health problems
- B. Historical and social context
  - 1. Literature and film
- C. Most commonly used epidemiological study designs
- D. Case studies

2. Basic epidemiological calculations

- A. Analysis of rates
  - 1. Cases
  - 2. Population at risk
  - 3. Risk factors (social determinants of health)
  - 4. Incidence
  - 5. Prevalence
  - 6. Natality
  - 7. Morbidity
  - 8. Mortality

3. Basic epidemiological measurements

- A. Interpretation
- B. Identification
- C. Threats to validity of studies

4. Steps in an outbreak investigation

- A. Detection
- B. Patterns
  - 1. Population perspective
- C. Association and causality
- D. Control of infectious conditions and chronic disease

5. Ethical issues

- A. Policies

- 6. Health services and public health interventions
  - A. Diverse and multicultural communities
- 7. Social justice
  - A. Within local communities
  - B. Within nations
  - C. Within the world

## Lab Activities

No information provided

## Objectives

- 1. Critically evaluate the role and relevance of epidemiology as a tool to address public health problems.
- 2. Describe the historical and social context of epidemiology through literature and film.
- 3. Identify the most commonly used epidemiological study designs through conceptual and narrative processes.
- 4. Demonstrate the use of basic epidemiological methods, such as the analysis of rates, and the definition of cases, population at risk, risk factors, incidence, prevalence, natality, morbidity, and mortality.
- 5. Apply basic epidemiological calculations to describe a public health problem.
- 6. Interpret epidemiological data, including identifying threats to internal and external validity of studies.
- 7. Outline the steps in an outbreak investigation, detection, and control of infectious conditions and chronic disease.
- 8. Apply population perspectives in various health professions.
- 9. Critique the ethical issues surrounding epidemiology practice.
- 10. Apply the skills to provide effective, necessary, and appropriate health services and public health interventions in diverse and multicultural communities identified by epidemiological data.

11. Describe the challenges to achieving social justice and identify ways to contribute to social justice within local communities, nations, and/or the world.

## **Evaluation Methods**

May include:

Exams

Quizzes

Written Assignments

Projects

## **Textbooks**

Aschengrau, Ann and George Seage. Essentials of Epidemiology in Public Health

Friis, Robert. Epidemiology 101