

Prepared by the Department of Sciences

Date of Departmental Approval: November 6, 2017

Date Approved by Curriculum and Programs: December 13, 2017

Effective: Fall 2018

1. **Course Number:** BIO204
Course Title: Introduction to Public Health
2. **Course Description:** This course provides an introduction to the public health. Its biomedical basis, including infectious and non-infectious diseases, environmental pollutants, and related factors are discussed. Other topics covered include social, behavioral, and environmental factors that affect public health, Federal, state and international health agencies. Epidemiological principles, surveillance and regulation are addressed with analysis of case studies. Emerging diseases, biotechnology, and new investigative tools are also introduced.
3. **Student Learning Outcomes:** Upon successful completion of this course, students are able to do the following:
 - Explain what “healthy” means
 - Describe the biomedical basis of public health, including infectious agents and disease, mechanisms of transmission, genetic, immunological and non-infectious diseases, and health problems resulting from environmental pollution
 - Explain the social and behavioral factors that affect health choice, including risk of injury, and the impact of governmental regulation
 - Explain the impact of clean air and water on public health and the consequences of climate change
 - Explain the factors that control food and drug safety
 - Describe how medical care is a component of public health
 - Explain the general methods used in epidemiology, and understand the limits of data collection and analysis
 - Explain, using case studies, how data and simple statistics can be used to arrive at a reasonable conclusion
 - Describe the public health systems in the U.S. and elsewhere, including global agencies and NGOs, and how they cooperate
 - Explain the differences between public health systems and their regulation in the United States and elsewhere, and summarize the advantages and disadvantages of each approach.
 - Explain briefly what factors might affect public health in the future, such as emerging infectious diseases, biotechnology, and new investigative methods
 - Evaluate (consensus) sources of information from authoritative web sites and articles
 - Synthesize and present a point of view
 - Examine and evaluate published public health data using appropriate software to arrive at meaningful conclusions
 - Manipulate, summarize, interpret and present data in the form of graphs and
 - Write at least one formal research paper on a pertinent public health topic
 - Examine and evaluate published public health data in the form of spreadsheets, graphs and charts.
 - Evaluate (consensus) sources of information from authoritative web sites and articles
 - Manipulate, summarize, interpret, and present data, in the form of graphs and charts, to arrive at meaningful conclusions
 - Identify reliable sources of information available online, specifically governmental and public health authority resources, upload/download files, and view multimedia online.
4. **Credits:** 3 credits
5. **Satisfies a General Education Requirement:** Natural or Physical Science
6. **Prerequisites:** ENL101 (English Composition I), (MAT030 (Elementary Algebra) or MAT035 (Algebra for Non-STEM)), and a 4-credit science course with a lab component.
7. **Semesters Offered:** Fall and Spring
8. **Suggested Guidelines for Evaluation:** Examinations, research paper, and discussions.

9. **General Topical Outline of the Course:** See attached.

BIO204. Introduction to Public Health - Outline

1	Components of Public Health	What “healthy” means Origins of the public health system
2	Biomedical Basis of Public Health	Infectious agents and infectious diseases Mechanisms of transmission Genetic and immunological diseases Chronic non-infectious diseases Environmental pollution
3	Social and Behavioral Factors	Health choices as a social problem Prohibition and regulation Injuries
4	Environment and Public Health	Clean air, water, waste treatment Climate change Food and drug safety
5	Medical Care and Public Health	Medical care and health research as part of public health, aging populations Bioterrorism
6	Methods	Introduction to epidemiology Methodology, problems, limits, ethics Case studies Handling data and statistics
7	The Public Health System and Regulation	Federal versus state authority Federal and state agencies International agencies and NGOs Economic impacts, religious opposition, political interference
8	Future of Public Health	Emerging diseases Biotechnology New investigative tools