Online Career Development Program in Chronic Disease
Course Descriptions

Public Health Biology
Course description

The public health biology course covers the basic biologic concepts of human health and chronic disease. The course presents human anatomy and physiology, genetics, and immunology in the context of causes of chronic disease. The complex interaction of the human body with agents of disease and with the environment is presented as it relates to risk factors, methods of prevention, and treatment options.

Course goals

- Provide the vocabulary for understanding biologic terms in public health.
- Furnish databases and modes of access to biologic information.
- Explain the major techniques now available in the biologic sciences.
- Relate clinical tools (diagnosis and treatment of disease) to public health activities.
- Describe the pathophysiology of the chronic diseases of current public health importance.

Introduction to Biostatistics
Course description
The introduction to public health biostatistics course covers topics of interest for public health fields, including descriptive statistics, proportions, relative risks, probability, estimation and hypothesis testing applications, regression, and categorical data analysis. Applications use the statistical software, SAS.

Course goals

- Discriminate among different levels of variable measurement, and choose statistical tests, which are appropriate for measurement levels.
- Demonstrate the ability to compute and interpret confidence intervals for point estimates of means, proportions, correlations, regression coefficients, and odds ratios by hand and by using SAS.
- Demonstrate the ability to compute and interpret one and two sample, one-sided and two-sided statistical tests of differences in means and proportions by hand and by using SAS.
- Demonstrate the ability to conduct statistical tests of analysis of variance, OLS regression, and correlation to assess relationships between independent and dependent variables by hand and by using SAS.
- Demonstrate the ability to conduct statistical tests of nonparametric methods by hand and by using SAS.
- Demonstrate the ability to conduct and interpret one and two sample chi-square tests of association for tabular data.
- Identify which appropriate statistical tests to use to test for difference or to estimate association between chronic disease-related variables.

Introduction to epidemiology with emphasis in chronic disease

Course description

The introduction to epidemiology with emphasis in chronic disease course introduces concepts of epidemiologic methods and their practical applications to understanding the determinants and distributions of disease. The course covers the basic principles of epidemiology, including chronic disease control and analysis of risk factors. The course relies on readings in the field of chronic disease prevention and health promotion to illustrate major issues, such as types of epidemiologic studies, key analytic methods, and causal inference. Problem sets will provide experience in chronic disease epidemiologic methods and inferences.

Course goals

- Calculate basic epidemiologic measures.
• Use epidemiologic principles to design and monitor a chronic disease surveillance system.
• Compare the strengths and drawbacks of using a randomized, cohort or case control study design for examining a chronic disease problem.
• Explain basic clinical etiology, risk factors, and epidemiology for the major chronic diseases.
• Appraise the validity and public health relevance of epidemiologic and public health studies and reports.
• Identify relevant and appropriate data and information sources for chronic disease.
• Communicate epidemiologic information to lay and professional audiences.

Health program Planning

Course description
The health program planning course focuses on the key steps shown to be effective in the planning, implementation, and evaluation of community health promotion programs. The foundations for this course are based on the outcome-focused Precede-Proceed model, which has been applied globally and is consistent with frameworks applied through the Centers for Disease Control and Prevention (CDC). The course emphasizes the practical application of the core principles and rationale of epidemiology, social and behavioral sciences, and evaluation, and acknowledges that effective chronic disease prevention programs must thoughtfully address the cultural, political, environmental, and economic realities that define a community.

Course goals
• Formulate effective, community-based, health promotion programs designed to reduce chronic diseases and the multiple factors associated with those diseases.
• Analyze the behavioral and environmental determinants of health for predisposing, reinforcing, and enabling factors.
• Formulate specific collaboration strategies that can lead to the development of meaningful partnerships for program planning.
• Illustrate how the assessment of predisposing, enabling, and reinforcing factors generates critical indicators for process and outcome evaluation.
• Identify and describe three evidence-based interventions that have been shown to be effective at addressing different chronic disease-related problems at the community level.
• Design program evaluation strategies that improve program performance.
• By using evidence-based examples, describe how the participatory, collaborative dimensions of health promotion planning can trigger positive changes in the health-related policies of community organizations and governmental agencies.
• Write a program plan for a community-based intervention program aimed at reducing specific risk factors associated with a defined chronic disease or diseases, including social and environmental determinants.

Coming Soon

Social Determinants of Health

Tobacco Control for Public Health Professionals