INTRODUCTION TO PUBLIC HEALTH (HCB-840) **Credit Hrs 3 (3-0)**

Educational Objectives

1. This course aims to provide an overview of the public health problems and an insight into the under lying biological mechanisms. This will create knowledge based awareness in students and instil the ability to work towards solving the issues affecting public health at large.

Course Outcomes

2. At the completion of the course, the students will be able to

    a. Develop an understanding of the population approach and the main methods of measuring the health of a population.
    b. Assess the ways in which interventions can be introduced to reduce the burden of illness.
    c. Demonstrate the use of research tools and analytical methods to critically analyze, monitor and assess the health status of populations.
    d. Explain the concepts of prevention, detection, control of infectious and chronic conditions, health disparities, and global health.
    e. Identify relationships among the impacts of behaviour, socioeconomic status, and culture on health.
    f. Describe the basic concepts of legal, ethical, economic, and regulatory dimensions of health care and public health policy, and the roles, influences and responsibilities of the different agencies and branches of government.

3. Course Contents

    a. Introduction to Public Health, Communicable Diseases and Global Health
    b. Biostatistics
        (1) Data Utilization in Public Health Practice
        (2) Basic Probability
        (3) Advanced Data Analysis in Health policy

c. Environmental Public Health Sciences
    (1) Ecological Principles of Disease Systems: Population Interactions and Dynamics
    (2) Disease ecology
    (3) Environment, Development and Disease Susceptibility
    (4) Pathogens: Nature and Transmission
    (5) Host response to infection: Vaccines and WHO Guidelines
    (6) Public health policies and legislation
    (7) Treatment of infectious diseases: Drugs and drug resistance
    (8) Biotechnology and Genomics in Public Health
    (9) Current topics in public health biology
        (a) Reproduction
        (b) Genetic and environmental factors affecting expression of determinates of susceptibility to disease during development

d. Introduction to Epidemiology
    (1) Intro to incidence, prevalence and occurrence of disease
    (2) Pandemic and Endemic diseases

Recommended Books

1. **Principles of Epidemiology in Public Health Practice,** Third Edition, October 2006 Updated May 2012 by U.S. department of health and human services
2. Rothman KJ, Greenland S, Lash TL (Eds). **Modern Epidemiology** 3rd Edition. Lippincott, Williams & Wilkins 2008 ISBN 031675780-2.
3. **Epidemiology; principles and methods** Brian MacMahon, Thomas F. Pugh
4. Heymann, DL (Ed.). **Control of Communicable Diseases in Man** (19th Edition). American Public Health Association 2008 ISBN 087553189X
5. **Public Health Systems and Emerging Infections** by **Jonathan R Davis, Joshua Lederberg (ed.) - National Academies Press , 2000**
6. **Public Health Guide for Emergencies by G.M. Burnham, et al. - Johns Hopkins Bloomberg School of Public Health , 2008**

7. **Principles of Epidemiology in Public Health Practice, Third Edition** by **Richard Dicker, at al. - CDC , 2006**
8. **Global Burden of Disease and Risk Factors** by **Alan D. Lopez, Colin D. Mathers, MajidEzzati - World Bank Publications , 2006**
9. **Global Health: A Challenge for Interdisciplinary Research** by **M. Kappas, U. Gross, D. Kelleher (eds.) - UniversitätsverlagGöttingen , 2012**