

Tribhuvan University
Institute of Medicine



Curriculum of
Bachelor in Public Health
2011

**Tribhuvan University
Institute of Medicine
Bachelor in Public Health (BPH) Programme**

Description of the programme

1. The Programme Introduction

The Second People's Movement 2006 commenced a new chapter in the history of Nepal. The popular movement has established Nepal as a republic state. The interim constitution of New Nepal has endorsed health as basic human right of every Nepalese citizen. Government of Nepal has expressed its commitment to comply with the spirit of the interim constitution and has made several health policy reforms towards this direction. Among other factors, role of health professionals has been seen as vital for the efficiency and effectiveness of health care system.

With the epidemiological transition, Nepal is facing double burden of diseases. Rapid urbanization, changing life style with exposure to newer risks, rising mobility across the globe, impact of climate change, increased global relations and many other factors have made the solution of health problems more challenging than before. This situation has apparently demanded further competencies among the health work force. In view of this, the present BPH programme has been developed with enhancement and improvement of previous three years curriculum.

2. Objectives of BPH programme

The overall purpose of BPH programme is to prepare competent and responsible public health graduates needed for the country to respond to the health needs of people. The objectives of the programme is to enable the graduates with Bachelor in Public Health degree to

- a. Explain relevance of basic health sciences in public health
- b. Appreciate behavioral, socio-cultural, economic and other dimension of health and diseases
- c. Analyze health systems from public health perspective – effectiveness, efficiency, equity and justice
- d. Manage – plan, implement, monitor and evaluate – health systems, programmes and services
- e. Train and manage human resources for health
- f. Conduct health research for evidence based decision making process in public health
- g. Demonstrate leadership to organize and mobilize community to address health problems

3. Scope of degree of Bachelor in Public Health

Public health graduates will have a wide range of working scope in public and private sectors, as well as in service and academic sectors. The graduates with BPH degree can serve as public health officer or other position at the national, regional, district and community level in the government;

in national and international non government organizations. With their competency in academic area, public health graduates can work in the training and research institutions.

As further career opportunity, public health graduates are eligible for Master in Public Health (MPH) programme and other relevant master programmes.

4. Qualifications for admission to the programme

Those who are interested in admission to the BPH programme should have the following qualifications:

- a. Proficiency certificate level (PCL) in health sciences (general medicine, nursing, medical laboratory technology, pharmacy and other equivalent health sciences) OR
- b. Intermediate or 10+2 or equivalent degree in Science with Biology with at least 50% aggregate in final examination, AND
- c. Pass in the entrance examination conducted by Institute of Medicine

5. Duration of the programme

Bachelor in Public Health is a four academic year programme which includes 6 months practicum in the final years

6. The course outline

There will be a total of 2,800 marks in the course. These marks are equally distributed over four years of the programme – 700 each year. There are 24 papers with 100 marks each, and the practicum in the final year will carry 400 marks. The detail outline of the course is given in the following tables.

The course outlines of Bachelor in Public Health (BPH) Programme

The general curriculum outline

Year 1		Year 2			Year 3			Year 4			
Basic Science I	EXAMINATION	Family Health I	COMMUNITY HEALTH DIAGNOSIS	EXAMINATION	Family Health II	DISTRICT HEALTH FIELD PRACTICE	EXAMINATION	Public Health Research methodology And Public Health Project Planning and Development	INDIVIDUAL HEALTH RESEARCH	COMPREHENSIVE PUBLIC HEALTH PRACTICUM	EXAMINATION
Basic Science II		Health Promotion and Education I			Health Promotion and Education II			X			
Biostatistics		Epidemiology I			Epidemiology II			Health System Management and International Health			
Population studies and Informatics		X			Health Economics and Health Financing			X			
Food and Nutrition		Environmental Health and Occupational Health II			X						
Environmental Health I		Medical Sociology and Anthropology			School and Community Health						
Public Health and Primary Health Care		Public Health Administration and Management I			Public Health Administration and Management II						

Bachelor in Public Health
Credit weights of each of Papers and Units

Year One

Year	Paper	Course Title	Groups	Internal	Final	Total Marks
Year One	I	Basic Science I	A. Anatomy B. Physiology C. Biochemistry D. Pathology E. Pharmacology and Toxicology	4 4 4 4 4	16 16 16 16 16	100
	II	Basic Science II	A. Micro-biology B. Entomology and Rodentology C. First Aid	12 6 2	48 24 8	100
	III	Biostatistics		20	80	100
	IV	Population Studies and Informatics	A. Population studies B. Informatics	10 25	40 25	100
	V	Food and Nutrition		20	80	100
	VI	Environmental Health I		20	80	50 50
	VII	Public Health and Primary Health Care		20	80	100
Total						700

Bachelor in Public Health
Credit weights of each of Papers and Units

Year Two

Year	Paper	Course Title	Groups	Internal	Final	Total Marks
Year Two	VIII	Family Health I		20	80	100
	IX	Health Promotion and Education I		20	80	100
	X	Epidemiology I		20	80	100
	XI	Community Health Diagnosis (Residential field)		28	72	100
	XII	Environmental Health and Occupational Health II	A. Environmental Health	10	40	100
			B. Occupational Health	10	40	
	XIII	Medical Sociology and Anthropology		20	80	100
	XIV	Public Health Administration and Management I		20	80	100
Total						700

Bachelor in Public Health
Credit weights of each of Papers and Units

Year Three

Year	Paper	Course Title	Groups	Internal	Final	Total Marks
Year Three	XV	Family Health II		20	80	100
	XVI	Health Promotion and Education II		20	80	100
	XVII	Epidemiology II		20	80	100
	XVIII	Health Economics and Health Financing		20	80	100
	XIX	District Health Field Practice			100	100
	XX	School and Community Health	A. School Health: Health Promoting School B. Mental Health in Public Health C. Oral Health in Public Health D. Primary ear and hearing care E. Primary eye care	6 4 4 3 3	24 16 16 12 12	100
	XXI	Public Health Administration and Management II		20	80	100
Total						700

Proposed Curriculum
Credit weights of each of Papers and Units

Year Four

Year	Paper	Course Title	Groups	Internal	Final	Total
Year Four	XXII	Public Health Research Methodology and Public Health Project Planning and Development	A. Public Health Research Methodology	10	40	100
			B. Public health project planning and development	10	40	
	XXIII	Individual Health Research		20	80	100
	XXIV	Health System Management and International Health	A. Health System Management in Nepal	10	40	100
			B. International Health	10	40	
	XXV	Comprehensive Public Health Practicum			400	400
Total						700

Bachelor in Public Health

YEAR ONE

Paper I		
Course Title	Basic Health Science I	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course Introduction

This course has been designed to develop the basic knowledge on anatomy, physiology, pathology, biochemistry, pharmacology and toxicology in relation to structures and functions of body systems and organs which will help to the students to understand the health applications in the course. The course aims to impart the basic concept of drug management and importance of emergency medicine, rational use of medicine and public health importance of drug resistance. The course will apply the theoretical and practical knowledge to the student.

Course objectives

1. Explain the structures and functions of different systems, tissue and cell of human body in relation to health and diseases
2. Understand patho-physiology of inflammation, necrosis, neoplasia, hypersensitive reaction, shock, thrombosis, embolism, AIDS, complement, antigen antibody, ischemia, infarction and spread of cancer
3. Understand the functions and rational use of medicine, logistics system of medicine/ vaccines, public health importance of drug resistance
4. Describe the basic concept of toxicology in public health

Course Contents

Group A: Anatomy

24 hrs

Introduction

Define the terminologies used in anatomy.

Describe different components of animal cell.

Describe basic types of tissues with their characteristic features.

Organ systems

Unit 1. Musculoskeletal system

Name and identify the bones of appendicular and axial skeleton.

Classify joints with their characteristic features and examples.

Name the major muscles of the axial and appendicular skeleton.

Unit 2. Neurosensory System

Mention different components of nervous system; describe a typical spinal nerve. Mention the extent and coverings of spinal cord. Describe the transverse section of spinal cord; name the main tracts of spinal cord.

Name and identify different parts of brain and its coverings;

Name the cranial nerves and their area of supply.

Name the sensory organs; mention briefly on the gross features of eyeball and ear.

Unit 3. Respiratory System

Name different organs of respiratory system

Name paranasal sinuses

Describe briefly the extent and morphology of larynx, trachea and bronchi

Identify different parts of lungs and pleura

Mention different parts of bronchial tree

Unit 4. Cardiovascular system

Name and identify the parts, chambers and valves of heart. Mention briefly on fibrous pericardium, serous pericardium and pericardial cavity. 1hr

Mention the characteristic features of arterial, venous and lymphatic vessels.

Name the extent and branches of different parts of aorta.

Name the extent and branches of external carotid artery and internal iliac artery.

Mention the extent of the following arteries: axillary, brachial, radial, ulnar, femoral, popliteal, anterior tibial, posterior tibial.

Mention the extent and major tributaries of: superior vena cava, inferior vena cava and dural venous sinuses.

Mention and locate important superficial veins of upper and lower limbs.

Define lymphatic system.

Mention the area of drainage of: thoracic duct, right lymphatic duct, axillary group of lymph nodes, inguinal group of lymph nodes, pre and para-aortic groups of lymph nodes.

Unit 5. Reproductive system

Name different parts, location and extent of male genital tract.

Name different part, location and extent of female genital tract.

Unit 6. Urinary system

Name different parts of urinary system.

Explain parts of kidney in a coronal section.

Explain different parts of a nephron.

Mention the extent of ureter.

Describe briefly on urinary bladder, male and female urethra.

Unit 7. Gastrointestinal system

Name different parts of GIT. Mention the general architecture of GIT.

Mention the positions of salivary glands and pancreas.

Mention the position, lobes and structure of liver.

Name extra-hepatic biliary apparatus.

Explain the basic concept of peritoneal folds. Mention briefly on portal system.

Unit 8. Endocrine system:

Enumerate different endocrine glands.

Mention their position, secretion and their functions.

Unit 1. General Physiology

Name different components of animal's cell and their function

List different tissue of body and their characteristics

Define body fluids and electrolyte balance. Classify them and mention their composition.

Unit 2. Cardiovascular system and Blood

Describe the organization of the cardiovascular system and mention the function of its different components.

Describe cardiac cycle , heart sounds and systemic circulation

Define arterial blood pressure, cardiac output , venous return, vasodilation, vaso constriction.

Describe briefly mechanisms of blood pressure regulation

Correlate physiological aspects of hypertension, coronary artery disease , heart failure, rheumatic heart disease, atherosclerosis

Mention composition and function of blood

Define haemopoiesis and correlate physiological aspects of common blood disorders.

Explain physiological basis of blood groups, define Rh- incompatibility and mention dangers of mis-matched blood transfusion.

List clotting factors and explain mechanism of clotting.

List the functions of spleen

Define immunity and mention its types and correlate physiological aspects of hypersensitivity reactions and AIDS.

Unit 3. Respiratory system

List the functions of the lungs , describe mechanism of breathing and mention control of breathing

Describe gaseous exchange , and transport of oxygen and carbon dioxide in blood

Define tidal volume, vital capacity and timed vital capacity

Correlate physiological aspects of COPD , Bronchial asthma and high altitude sickness

Unit 4. Gastrointestinal system

List the functions of different parts of GIT

Explain the process of digestion and absorption

Enumerate the functions of accessory digestive glands including liver

Correlate physiological aspects of diarrhea, constipation, peptic ulcer, jaundice and cirrhosis

Unit 5. Musculo-skeletal system

Name the functions of different types of muscles

Explain neuro-muscular transmission and mechanism of skeletal muscle contraction

Explain the physiological effects of exercise and training (2hrs)

Unit 6. Nervous system and Special senses

List the functions of different parts of the central nervous system and peripheral nervous system

Mention the functions of sensory and motor tracts

Mention the functions of different cranial nervous

Enumerate the functions of autonomic nervous system

Correlate the physiological aspects of paralysis, cerebrovascular accidents (stroke), meningitis, encephalitis and epilepsy

Describe the functional anatomy of the eyes and ear and mention their functions

Correlate the physiological aspects of refractive errors, deafness and color blindness

Unit 7. Renal/ electrolyte and skin

Describe the mechanism of formation of urine

Explain how urine is concentrated and diluted

Describe micturition reflex

Describe the role of kidney in blood pressure regulation

Correlate the physiological aspects of renal failure, polyuria, retention of urine, renal stones, renal colic and electrolyte disorders.

Mention the functions of the skin, describe body temperature regulation and explain the pathogenesis of fever

Unit 8. Endocrine and reproductive system

Correlate the physiological aspects of dwarfism, acromegaly, goiter, diabetes mellitus and Cushing's syndrome

Explain the physiology of menstruation, spermatogenesis, pregnancy and lactation

Explain the physiological basis of contraceptives

Demonstrations / Practical

Recordings of blood pressure and pulse

Demonstration of principles of CPR, Vital Capacity and Timed Vital Capacity

Examination of cranial nerves

Motor and sensory examinations

Hearing tests

Tests for visual acuity and color blindness

Group C: Biochemistry**24 hrs**

Describe the basic concept of acid, base, salt and acid-base indicator.

Describe the properties and ionization of water.

Explain the concept of pH and pH meter.

Define buffer solution and enumerate types of buffers present in body fluid and their significances. 2hrs

Define, classify and enumerate the physical and chemical properties of carbohydrate.

Describe glucose homeostasis.

Define, classify and enumerate the physical and chemical properties of protein.

List the essential and non essential amino acids and their significances.

Define, classify and enumerate the physical and chemical properties of lipid.

Enumerate essential fatty acids.

Enumerate enzymes and list their important properties.

Enumerate the clinical significance of enzymes.

Discuss the concept of nucleic acid; define the terms: DNA, RNA, nucleotide and nucleoside.

Practical:

Measurement of pH (solutions, buffers etc.)

pH paper

pH meter

Preparation of different types of solution: normal solution, molar solution, 1% solution

Colorimetric estimation of serum glucose, protein and albumin

General Pathology

Describe the concept of cell injury and various change produced by such injury and necrosis.

Define basic terminologies.

Describe important causes of inflammation and its types

Explain the concept of wound healing

Describe the definition and types of thrombosis, embolism, ischemia infarction, shock and edema

Describe disorders of tissue growth and enumerate predisposing factors of neoplasia, mechanism of spread and metastasis

Define antigen, antibody and complement

Describe different types of immunity and hypersensitivity

Understand the patho-physiology, sign, symptoms and diagnosis of AIDS.

Systemic Pathology

Explain basic concepts of fracture, arthritis, osteomyelitis, pathophysiology, signs, symptoms and diagnosis

Unit 1. Cardiovascular system

Patho-physiology, signs, symptoms and diagnosis of hypertension, atherosclerosis, myocardial infarction, anemia, leukemia – classification and definition

Unit 2. Respiratory system

Tuberculosis, patho-physiology, signs, symptoms and diagnosis

Unit 3. Endocrine system

Diabetes mellitus, hypothyroidism, hyperthyroidism: Patho-physiology, signs, symptoms and diagnosis

Unit 4. Gastrointestinal system

Gastritis, Peptic Ulcer, acute viral hepatitis: Pathogenesis, signs, symptoms and diagnosis

Unit 1. Pharmacology

- a. Basics of pharmacology
 - Concept and functions of medicine
 - Pharmaco-dynamic and pharmacokinetic
 - Classification of medicines
 - Concept of essential medicine, life saving medicine
 - Development of new medicines
 - Experiment in lab animal
 - Healthy human
 - Patients and community trial
- b. Rational use of medicine
 - Concept of rational use of medicine
 - Maintaining quality of medicine: quality during
 - Production
 - Transportation
 - Storage in the stock and at the household
 - Consumption: right dose, right time, right duration, expiry
 - Cost of drugs, rational prescription
 - Factors contributing to irrational use of medicine
 - Consequences of irrational use of medicine
 - inappropriate use of medicine
 - ‘drug resistance’
 - Role of health professionals and users in promotion of rational use of medicine
- c. Regulatory authority of medicine
 - Steps of regulation of medicines
 - Regulation of production, marketing, import
 - Concepts of prescription medicine and ‘over the counter medicine’

Unit 2. Toxicology

- a. Introduction
 - Concept of toxicology

Historical perspective of toxicology
Toxicology as an analytic science
Importance of toxicology in Public Health

b. Dimension of toxicology

Environmental toxicology
Occupational toxicology
Clinical toxicology
Forensic toxicology

c. Concept of toxins and toxicity in relation to dimension of toxicology

Toxin and toxicity
Toxic substances
Toxicity value
Poison and causes of poisoning
Factors that influencing toxicity

d. Approaches to prevent and control of health risk due to various dimension of toxicology.

Teaching learning method

Didactic lectures, group demonstration/practical discussion in class room setting, OPD , ward, laboratory, and field exposure

Evaluation

Internal Assessment in different forms	20%
Final examination	80%

Subject	Internal assessment	Final examination	Total marks
Group A. Anatomy	4	16	20
Group B. Physiology	4	16	20
Group C. Biochemistry	4	16	20
Group D. Pathology	4	16	20
Group E. Pharmacology and Toxicology	4	16	20
Total marks	20	80	100

References

1. Muirs Textbook of Pathology
2. Robbin's Pathology

Paper II		
Course Title	Basic Health Science II	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course Introduction

This course will develop the knowledge and skill of identifying different types of pathogens, arthropods and rodents of public health importance. The course aim to develop skill on pathogenic diseases and diseases caused by arthropods and rodents and the laboratory skills for characteristic features. It also aims to impart the knowledge and skill on first aid.

Course objectives

1. Describe the concept of microbial diseases and viral diseases
2. Describe the lifecycle of common intestinal and blood parasites
3. Provide the treatment prevention and control of parasitic diseases
4. Describe the normal opportunistic and pathogenic bacteria
5. Describe the methods of sterilization
6. Understand and the mechanism and development of immunity
7. Describe the bacterial and viral diseases of community concern
8. Describe the role and control measures of rodents and arthropods in public health
9. Understand the basic concept of first aid and its application in emergency situation

Group A: Microbiology

Full Mark: 60

Hours: 72

Unit 1. Introduction of microbiology

12 hrs

Introduction to microbial world

Classification of microbial diseases

Introduction to community acquired microbial infection

Unit 2. Bacteriology

20 hrs

Classification of bacteria.

Normal bacterial flora on or in the body.

Concept of opportunistic and pathogenic organisms.

Bacterial physiology and its growth factors.

Mechanism of infection.

Spread of diseases, pandemic, endemic, epidemic and laboratory infection.

Physical sterilization, chemical disinfectants and radiation.

Collection and transport of specimen for identification of common bacterial communicable diseases (Respiratory, genital and gastrointestinal diseases)

Gram staining and AFB staining in identifying bacteria.

Unit 3. Parasitology

20 hrs

Classification of human parasite

Introduction to parasitic diseases associated with poor personal and public hygiene.

Blood parasites (Malaria parasite, Kala-azar, microfilaria)

Life cycle and mode of infection.

Collection of sample, processing and identification.

Treatment, prevention and control.

Intestinal protozoa (Entamoeba histolytica, Giardia lamblia and Cryptosporidia)

Life cycle and mode of infection.

Collection of sample, processing and identification.

Treatment, prevention and control.

Intestinal worms (Roundworm, hookworm, pinworm, whipworm)

Tapeworm: T. saginata, T. solium, Echinococcus granulosus. H. nana

Life cycle and mode of infection.

Collection of sample, processing and identification.

Treatment, prevention and control.

Unit 4. Virology

10 hrs

Introduction

Classification of virus

Replication of virus

Introduction to viral disease of community concern

Collection and preservation of viral specimen for laboratory study

Prevention and control of viral diseases

Unit 5. Immunology

10 hrs

Introduction to immunology

Defense mechanism of body

Antigen and antibody

Hypersensitivity reaction

Basic concept of immunology in diagnosis of viral diseases.

Practical

Preparation of slides (smears) and identification of ova, parasites, cyst trophozoites from stool specimen.

Collection of specimen, preparation of smears, staining and identification of blood parasites.

Performance of Gram staining and AFB staining and identify the bacteria.

Use of autoclave, hot air oven and preparation of chemical disinfectant.

Group B: Entomology and Rodentology

Full Mark: 30

Hours: 36

Unit 1. Introduction

6 hrs

Introduction to medically important arthropods and rodents.

General outline, classification of arthropods and rodents (with special reference to medical important groups).

Unit 2. Habit, habitat, external morphology and control measures of:

12 hrs

Arachnids: Scorpions, spiders, ticks, mites

Non-dipterous insect: Lice, fleas, bugs, and cockroach

Dipterous insects:

Myasis -Producing flies

Phlebotomine - Sand flies

Simulium - Black flies

Mosquito - Culicine, Anopheline

Integrated approach of vector control

Unit 3. Rodentology

12 hrs

Habit, habitat and morphology of rodents.

Diseases and health hazards associated with arthropods and rodents

Different methods of controlling arthropods and rodents- Integrated approach of vector control

Insecticides, rodenticides and their usability

Insecticides - Problem of resistance, Hazards

Group C: First Aid

Full Mark: 10

Hours: 12

Shock, types of shock, identify first aid measures to the patient

First aid measures in case of poisoning (insecticides, rodenticides, drugs, alcohols)

Foreign body in ear, nose, throat and eyes and provide first aid

Injury, identify measures to provide first aid appropriately

Hemorrhage, first aid to control external bleeding

Burns, classification, its percentage and first aid measures to thermal and chemical burns

Measure to manage the case of frost bite

Fractured bones and dislocations, its first aid measurement

Heatstroke and its first aid measurement

Rabid animal bites and its first aid measurement

First aid measures in case of drowning

Measures to be taken in case of snake bites

Acute mountain sickness and its first aid measures

Practical

Identify medically important arthropods and rodents

Illustrate the different stages of the life cycle of medical important insects

Teaching learning method

Didactic lectures, group work, discussion in class room setting

Laboratory demonstration classes, Hands on exercise

Observation visit to different organizations related to environmental issues

Evaluation

Internal assessment in different forms 20%

Final examination 80%

References

1. K.D. Chattergi “Parasitology”
2. Students Text Book of Medical Entomology
3. Cheesebrough M “Medical Laboratory Manual for Tropical Countries” Vol I and Vol II, ELBS 1996
4. Fuerst R “Microbiology in health and disease” W.B. Saunder 1995
5. Mackie and Cathey MC “Practical Medical Microbiology” Churchill Livingstone 1994
6. Text books of First, Aid, Recent edition
7. Diagnostic and Treatment Manual for Primary Health Care in the District, 2nd edition, Health Learning Material Centre, Institute of Medicine; 2008

Paper III		
Course Title	Biostatistics	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course Introduction

This course will develop the student's skills on the basic statistics used in public health research. After the completion of the course, the students will be able to:

- a. Understand the key concepts on descriptive statistics.
- b. Identify and use of appropriate descriptive and analytic statistical measures.

Course Objectives

1. Describe and apply statistical concepts and knowledge in planning, implementing and monitoring public health programmes
2. Describe and generate statistical information participate in and provide statistical information to conduct operational research designed to provide effective health care delivery for the community
3. Describe and generate information on the health status of a community

Course Contents

Unit 1 Introduction

6 hrs

Definition of Common Statistical Terms, difference between Statistics and Bio-statistics – some concepts, definition of biostatistics, scope, role, usefulness of different branches of statistics in the investigation of community health and public health research, uses of Bio-statistics in public health research

Unit 2 Descriptive Statistics

16 hrs

Basic concept of variables, types of variables (discrete and continuous variables), scales of measurement

a. Data Collection

Collection and recording of statistical information on public health and its related fields from primary and secondary sources

Tabulation, processing and presentation of statistical data: frequency distribution and different types of tables (one way, two way and manifold tables).

b. Diagrammatic and graphic presentation

Bar graphs, histogram, stem- and-leaf plots, polygon bar charts, pie charts, Box-plot

c. Measures of Central Tendency

Mean, Median & Mode

Different partition values (quartiles, deciles & percentiles)

d. Measures of dispersion (variability)

Range, standard deviation, variance and coefficient of variation (CV)

Unit 3. Probability Distribution

18 hrs

- a. Concept of set theory, permutations, combinations, factorial, definition of Probability, Multiplicative Law of Probability, addition law of probability, Conditional Probability, and Bayes' Theorem
- b. Random variable, discrete and continuous probability distribution, definition and properties of Binomial, Poisson and Normal probability distribution, Expected value and variance of Binomial, Poisson and Normal distribution

Unit 4. Correlation and regression analysis

20 hrs

- a. Definition of correlation, two way scatter plot, Karl pearsons' correlation coefficient, Spearman rank correlation coefficient and its significance, properties of correlation coefficient
- b. Explain the concept of regression analysis for two variables and compute the regression coefficients for simple linear regression model, least square regression equation, basic concept of multivariate regression

Unit 5. Sampling theory, Sampling distribution and Estimation

25 hrs

- a. Define terms used in Sampling (population, sample, sampling unit, sampling frame), sample survey & census
- b. Different types of sampling techniques (probability – simple random, stratified, systematic, cluster and multistage & non-probability – convenience, judgmental, quota sampling, and snowball,) Sampling errors and non-sampling errors
- c. Sampling distributions (distribution of sample mean, sample proportion and difference between two sample means and two sample proportions), Central limit theorem, standard error of mean and proportion, point and interval estimation of the mean, proportion of distribution, sample size estimation

Unit 6. Hypothesis testing

25 hrs

- a. Concept of hypothesis, null and alternative hypothesis, formulation of a statistical hypothesis, level of significance, type I and type II errors, power
- b. Parametric and non-parametric test of significance: z-test and t-test for one sample & two samples means and proportions, one way analysis of variance (Parametric test), The sign test, Mann Whitney U test, Wilcoxon Matched Pair signed-rank test, chi-square test, Fisher exact test, McNemar test (non-parametric test), Advantages and disadvantages of nonparametric methods

Teaching learning method

Class lectures, practical problem solving sessions, Review of Journal articles on use of statistical methods,

Evaluation

Internal assessment in different forms	20%
Final examination	80%

References

1. Blair R clifford, Taylor Richard A, Biostatistics for health sciences, Pearson education inc, Prentice Hall, Indian edition Dorling Kindersley India Pvt Ltd, 2009
2. Pagano Marcello and Gauvreau Kimberlee, Principles of Biostatistics, Cengage Learning aindia Private Ltd, New Delhi, 2008
3. Rosner Bernard, Fundamentals of Biostatistics, Duxbuey Thomson Learning, seventh edition, 2010
4. Wayne W. Daniel. Biostatistics A foundation for analysis in the health sciencess, Wiley India (P) Ltd, New Delhi, 2007
5. Zar Jerrolad H. Biostatistical Analysis, Prentice Hall, 1999

Paper IV		
Course Title	Population studies and Informatics	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course Introduction

The course consists of two different groups namely Group A: Population Studies and Group B: Informatics. Each group carries equal total marks of 50 and 60 credit hour.

Group A: Population Studies

Full Mark: 50

Hours: 60

The course imparts the basic knowledge and understanding on population studies, which will provide a better perspective in, managing public health care system and methods for calculating different demographic indicators and their interpretation.

Course Objectives

1. Understand the structure, characteristics, and components of population and population growth.
2. Understand the consequences and the implication of population growth on health and resource base.
3. Conceptualize the interrelationship between population growth and sustainable development.

Course Contents

Unit 1. Introduction to Population Studies

6 hrs

Importance and implication of population study in public health,

Concept and definition of some useful terms such as ratio, rates, proportion, cohort etc

Sources of population data and importance of Population Census, Vital registration system, sample surveys, health institution data, national international publications

Unit 2. Population Structure, Characteristics and Components

6 hrs

Importance of sex and age structure, marital status, literacy rate, sex ratio, religion, ethnicity, dependency ratio

Different methods of calculating growth of population. Growth of population in Nepal and the growth pattern in the world as well

Concept of young, old age population and aging of population

Unit 3. Population growth and its trend in Nepal with comparison

4 hrs

Present population growth in the Nepal and its growth trends

Present population growth in SAARC countries the world and growth trend of world

Unit 4. Three Components of population growth

12 hrs

1. Fertility

a. Measure of fertility its importance

Concept of fertility and its different measures such as

Crude Birth Rate, and specific rates, total fertility rate

b. Other measures of Fertility and some concepts

Child women ratio and its use

Standardized birth rates and its purpose

Replacement level of fertility

Population momentum

Factors affecting fertility

Baby Boom and Baby bust syndrome

c. Measures of reproduction

Concepts and importance of gross and net reproduction rate

2. Mortality

a. Measure of mortality of

Concepts and importance

Crude and specific rates, infant and

Maternal mortality ratio

Other measures of mortality

Neonatal and post neonatal mortality, foetal, prenatal mortality rates

Standardized death rate and its importance

b. Factors affecting mortality

3. Migration

Some measures of migration

Concepts, some useful terms, types of migration

Estimation of life time and intercensal migration from place of birth statistics

Factors affecting migration

Unit 5. Morbidity

6 hrs

Determination of rates and ratios

Concept of incidence rate, period prevalence and point prevalence rate

Unit 6. Population Projections

6 hrs

Importance of population projection, difference between projection and estimation

Population Projection by balancing equation

Mathematical methods of population projection and their appropriate use and constraint

Arithmetical method

Geometric model

Exponential model

Unit 7. Population policy and program in Nepal

4 hrs

Essential requisite of population policy

Recent Goal, target, strategies and population program of Nepal

Analyze the population policy of Nepal and comment

Unit 8. Population Theories

6 hrs

a. Early thinking on Population issues

b. Malthusian doctrine and Neo-Malthusians, Cornucopias concepts

c. Demographic transition theory

Unit 9. Measures of Urbanization

6 hrs

Some useful terms

Different definition urban area in Nepal since 1952/54

a. Different measures of urbanization in degree

Percentages of population in urban areas

Ratio of urban and rural population

Size of locality of residence of the median inhabitant

Mean City Population Size

b. Tempo (speed) of urbanization

Different method of Tempo of urbanization

Annual change of percentage points for all degree measures

Annual average rate of change of percentage urban

c. Factors affecting Urbanization

Teaching learning method

Class room teaching with the use of overhead projector, LCD and group discussion

Evaluation

Internal assessment in different forms	10%
Final examination	40%

References

1. Ajit Pradhan et al, " Nepal Maternal Mortality and Morbidity Study 2008/2009,Family Health Division, Government of Nepal ,Kathmandu, Nepal
2. Bhende, AA and Kanitkar T. "Principles of population studies" Himalaya Publishing House, Bombay, (Latest edition)
3. Bogue. D. "Principles of Demography", John Wiley and Son New Works, 1969.
4. Comprehensive family planning (COFP) course NHIC/Nepal.
5. Cox. RC. "Demography", Cambridge University Press. 1986.
6. Misra Bhaskar "An introduction to the study of population" South Asian Publishers Pvt. New Delhi. (Latest Edition)

Group B: Informatics

Full Mark: 50

Hours: 60

Course Introduction

The course imparts the basic knowledge and understanding on computer and Information technology, which will provide a better perspective in, managing public health care system, and health research.

Course Objectives

- Identify appropriate HW and SW for their use
- Acquire knowledge on national health data base and surveillance system
- Able to use different search engine on web
- Handle some database, reference software
- Handle some statistical software
- Interpret the statistical outputs

Contents

Unit 1. Introduction of Information Technology

5 hrs

Introduction, history, Architecture, System, Hardware, Software

Unit 2. Operating system (OS)

5 hrs

Introduction to Different types of Operating systems, Memory Management, File Concepts, Access and Allocation Methods, Free Space Management. Disk Structure, Disk Scheduling and Disk Management.

Unit 3. Public health and IT

20 hrs

Introduction to public health informatics, Principles of using technology, role of the public health professional in information technology, electronic communication, Information technology and organizational change in PH, National Health Information Management System, IT in public health surveillance, Future directions in public health information technology applications , Ethics in IT, Security, privacy and legal issues of IT, Barriers to IT, IT Disasters, On-line research for PH, WWW site and use in PH, Managing GIS, Evolution of information technology

management in PH, Management information system, Strategic planning for information management, Challenge of teaching information technology in PH

Unit 4. Database management

10 hrs

Introduction to database systems, Database Administration - Database system architecture and data dictionary- Relational, Hierarchical, Network Models

Unit 5. Data analysis

20 hrs

Introduction of different commercial and non-commercial data analysis and reference managing software and hands on practice in some software, Introduction to different software used by govt. and non-government organizations for surveillances, mapping, projection, modeling

Teaching learning method

Class lectures, practical problem solving sessions

Evaluation

Internal assessment in different forms	25%
Final examination	25%

References

Dawson Christian, Projects in Computing/Information System:A students' guide, Prentice Hall; 2nd Revised edition (April 23, 2009)

Paper V		
Course Title	Food and Nutrition	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course Introduction

This course has been designed to impart knowledge and applications on food and nutrition. The course intends to impart knowledge and skills to students in understanding the relationship of food, nutrition and health, which will be applied to plan and execute different interventions to overcome the problems related to food and nutrition.

Course Objectives

1. Understand, define and describe the importance of food and nutrition
2. Understand basic concept of food and nutrition science and its relation to health
3. Assess the nutritional status of individuals and groups by different methods
4. Understand the nutritional policies, strategies and programs of Nepal
5. Implement nutrition programs by utilizing different methods
6. Explore and address the socio-cultural factors of food and nutrition in relation to public health promotion

Course Contents

- | | |
|---|------------------|
| 1. Introduction to food science and nutrition | 16 hrs |
| Concept and importance of food and nutrition | |
| Nutrition as a public health science | |
| Constituents of food, classification of food and nutritive value of food | |
| Macronutrients and their functions | |
| Micronutrients and their functions | |
| Digestion, absorption, metabolism and utilization of nutrients: carbohydrates, proteins, fats, vitamins, minerals and water | |
| Nutrition related diseases – diabetes, hypertension, obesity | |
|
2. Nutritional requirements at different stages of life |
8 hrs |
| Recommended dietary allowances, balanced diets and its importance for various age and sex groups | |

Nutritional requirement of infant, pre-school children, school children, pregnant and lactating mothers, adolescents, adults and old aged

Breast feeding – physiology of milk production, advantages of breast feeding over artificial feeding

Weaning, supplementary and complementary feeding practices

Lifecycle approach in nutrition promotion

3. Nutritional deficiency diseases 12 hrs

Protein energy malnutrition (PEM)

Vitamin A deficiency

Iron deficiency anemia

Iodine deficiency disorders

Other nutritional deficiency diseases

4. Assessment of nutritional status 12 hrs

Assessment of nutritional status: anthropometric, biochemical and clinical methods of assessments

Nutritional anthropometry: different classifications

Dietary survey

5. Nutrition Intervention 16 hrs

Nutrition education: importance, methods, objectives, techniques, selection of appropriate methods and media

IEC materials: types, contents and use in nutrition education

Food fortification and nutrients supplementation

Nutrition surveillance, emergency feeding

Nutrition rehabilitation: institution based, community based and home based rehabilitation

Comparative effectiveness of pediatric nutrition rehabilitation unit, nutrition rehabilitation center and home based nutrition rehabilitation

6. Food processing, food hygiene and food adulteration 12 hrs

Food processing, preparation, storage and consumption

Effects of food processing and storage on nutritive value of foods

Food hygiene and the effects of unhygienic food
 Meat hygiene, milk hygiene
 Role of mycotoxins on nutrition and control measures
 Food adulteration – its causes and health effects
 Infection-malnutrition cycle
 Poverty, over population and malnutrition cycle

7. Nutrition programs in Nepal 12 hrs

Different nutrition programs conducted by government, NGOs and INGOs
 Food fortification and supplementation programs
 School health and nutrition program of Nepal

8. Nutrition survey and research 12 hrs

Overview of nutritional surveys and researches conducted in Nepal
 Mapping out the magnitude and geographical distribution of malnutrition as a public health problem
 Utilization of research findings on nutrition programs in Nepal

9. National nutrition plans and policies 10 hrs

Nutrition policies, plans and strategies of Nepal
 Health Act and food legislation
 Land resources and ownership
 Food marketing and food transportation

10. Socio-cultural aspect of food and nutrition 10 hrs

Trans-cultural impact on food practices and behavior
 Culture as an influencing factor of nutritional status – useful and harmful effects
 Socio-economic aspects of food production distribution and consumption
 Poverty and food security

Teaching learning methods

Classroom lectures
 Group work and presentation

Concurrent field visits to observe nutrition rehabilitation centers and pediatric hospitals
Concurrent field visits to study nutrition projects run by various organizations

Evaluation

Internal assessment (including regularity and performance of student in classroom, field activities and written assessment exams) 20%

Final examination 80%

References

1. Bamji M.S., Rao NP, Reddy V. *Textbook of Human Nutrition*, Oxford & IBH Publishing Co. Pvt. Ltd.
2. Gopalan BV, Sastri R and S.C. Balasubramaniam. *Nutritive Value of Indian Foods*. Hyderabad, India. NIN and Indian Medical Research: 1994
3. Felicity SK and Aurgess A. *Nutrition for Developing Countries*, Second edition, Oxford University Press: 1992
4. MoH/MI/New ERA. Nepal Micronutrient Status Survey, Kathmandu: 1998.
5. Asian Development Bank, UNICEF. *Investing in Child Nutrition in Asia: Nutrition and Development Series No. 1* edited by Joseph Hunt and M.G. Quibria,
6. MoH/New ERA/ORC Macro. *Nepal Demographic Health Survey*. 2001, Kathmandu: 2002
7. Swaminathan M. *Advanced textbooks on foods and nutrition*, Volume II & I. India: Bappco 1990.
8. Gopalan BV, Sastri R and S.C. Balasubramaniam. *Nutritive Value of Indian Foods*. Hyderabad, India. NIN and Indian Medical Research: 1994
9. Felicity SK and Aurgess A. *Nutrition for Developing Countries*, Second edition, Oxford University Press: 1992
10. His Majesties Government of Nepal, Department of Health Services. Annual Report, 2003/2004
11. Asian Development Bank, UNICEF. *Investing in Child Nutrition in Asia: Nutrition and Development Series No. 1* edited by Joseph Hunt and M.G. Quibria
12. MoH/New ERA/ORC Macro. *Nepal Demographic Health Survey* 2001, Kathmandu: 2002

Paper VI		
Course Title	Environmental Health I	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course Introduction

The course offers an opportunity to understand the role of environment in public health. It also describes the underlying causes of diseases due to deterioration of environment and sustainable preventive measures for enhancing the quality of life in the community.

Course objectives

Objectives of the course are to make students understand, describe, analyse and explain followings:

1. Concept of Environmental health and Ecohealth and
2. Common Environmental Problems of Nepal
3. Role of sanitation in health
4. Pollutants and health
5. Food security and health
6. Existing policy measures for the sustainable health

Course contents

Unit 1: Introduction

6 hrs

Historical perspective of environmental health
Fundamentals of ecology, ecosystem and environment
Fundamentals of weather, climate and health
Concept of environment and health
Eco-health approach to human health and diseases

Unit 2: Common environmental problems of Nepal

12 hrs

Environmental problem
Deforestation
Soil erosion
River siltation
Flooding and drought

- Landslide
- Desertification
- Unsafe drinking water
- Poor sanitation and hygiene
- Loss of Biodiversity
- Solid waste/Liquid waste
- Air pollution
- Soil pollution
- Key Environment and health issue
 - (a) Process of identification
 - (b) Process of analysis based on Pressure- State –Impact- Response Framework

Unit 3: Water and health

12 hrs

- Sources of water supply
- Concept of water quality guideline and standard
- Existing water quality/quantity
- Water related diseases
- Water purification
- Prevention and control measures
- National water plan and policy

Unit 4: Human excreta disposal practice and health

10 hrs

- Present situation and practices
- Types/Methods of Human excreta disposal
- Promotional aspects of excreta disposal
 - Family
 - Community
 - National
- Resource recovery from solid waste (including human excreta)
- National Sanitation Policy in Nepal

Unit 5: Waste management

10 hrs

- Concept of solid waste management

Sources and types of waste

General waste

Hazardous waste

Health care waste

Waste composition

Collection system

Disposal system

National policy on solid waste management

Unit 6: Liquid waste management

10 hrs

Liquid waste and health

Concept of standard/guideline of waste water

Types of liquid waste

Domestic

Agricultural

Industrial

Health care institution/organization

Method of liquid waste disposal/treatment

Management of liquid waste

Policy on liquid waste management

Unit 7: Air pollution and human health

10 hrs

Ambient air pollution

Causes of air pollution

Sources and status

Types and sources of air-pollution

Effects of air pollution on biological system

Effects of air-pollution on human health

Guideline /Standard

Indoor air pollution

Causes of air pollution

Sources and status

Energy ladder

Indoor air pollution and Maternal child health
Policy measures
Guideline /Standard

Unit 8: Pesticides pollution and human health

10 hrs

Pesticides: types and uses
Pesticides pollution
Alternative method of pest control
Pesticide legislation

Unit 9: Food quality and human health

16 hrs

Food security
Food quality
Food borne diseases
Management of food hygiene
 Domestic
 Commercial
 Institutional
Monitoring and evaluation (HACCCP)
Food act and food laws

Milk hygiene

Importance of milk and milk products
Milk borne diseases
Management of milk
Dairy farm
Pasteurization

Meat hygiene

Importance of meat in health
Meat borne diseases
Management of meat
 Slaughterhouse and practices

Sanitation measures
Quality control of meat

Unit 10: Shelter and Human Health

10 hrs

Concept of shelter
Detrimental effect of poor housing
Principles of housing and health
Standards of housing
Urbanization and health
Concept of healthy cities and healthy villages
Policy /conventions

Unit 11 Noise pollution

8 hrs

Concept of noise pollution
Sources of noise pollution

Unit-12: Environmental Law

6 hrs

Overview of environmental laws
Environmental health program in Nepal

Teaching learning methods

Didactic lectures, group work, discussion in class room setting.
Laboratory demonstration classes, Hands on exercise
Observation visit to different organizations related to environmental issues

Evaluation

Internal assessment in different forms	20%
Final examination	80%

References

1. Carson, Walter (1990), The Global Ecology Handbook, Boston, USA.
2. FAO/WHO (1997), Health and Environment in Sustainable Development WHO/EHG/97.8.

3. Miller, Tyler (1988), Environmental Science. USA: Wadsworth Inc.
4. MOPE/ICIMOD/UNEP (2001), Nepal: State of the Environment Report 2001. Kathmandu: UNEP /ICIMOD
5. WHO (1992), Health Organization "WHO commission on health and environment" Report of the panel on food and agriculture. Geneva: WHO
6. WHO (1996), Climate Change and Human Health, WHO/WMO/UNEP.
7. WHO (1996), Guideline for Drinking Water Quality: Health Criteria and other Supporting Information, WHO.
8. WHO (1996), Biodiversity, Biotechnology and Sustainable Development in Health and Agriculture: Emerging Connection. WHO
9. WHO (1999), HACCP (Hazard Analysis and Critical Control Point) Principle and Practice.
10. WHO (1999), Monitoring Ambient Air Quality for Health Impact Assessment, WHO.
11. WHO (1991), Surface Water Drainage for Low-income Communities, WHI/UNEP
12. Whyte, A. (1986), Guidelines for planning community participations in water supply and sanitation project. WHO

Paper VI I		
Course Title	Public Health and Primary Health Care	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course Introduction

The course offers an opportunity to develop a holistic understanding of public health, its functions and scope. The course attendants will learn the historical development and methodology of public health and the public health care. The course will also apply the theoretical and conceptual knowledge to bring changes in the health of community. In the light of principles of Primary Health Care, the course is expected to help the students to understand and internalize the dynamics of community development facilitating the integration of health sector with other sectors.

The course consists of the following components

- a. Fundamentals of public health
- b. Primary Health Care (PHC) and its strategies (Community organization and community participation and Community development)
- c. Public Health service delivery (theory and field observation)

Course objectives

Objective of the course is to help the students to understand, describe and explain

1. Concept, historical development, principles, functions and methods of Public Health
2. Concept of health and disease, spectrum of health, prevention of disease and promotion of health
3. Historical background and development, principles, and strategies of primary health care (PHC)
4. Application of primary health care and health services in Nepal
5. Current public health transition

Course contents

Unit 1. Introduction to Public Health

40 hrs

a. Concept of health and disease

Definitions of Health, spectrum of health

Concept of disease

Determinants of diseases

b. Concept of public health

Historical development of public health

The pre-Christian period

The middle ages

The age of the black death

The Renaissance period

The 18th and 19th centuries - enlightenment period

Cotemporary concept

Functions of public health

Core functions of public health

Essential services of public health

Activities and programmes of public health

Scope of public Health

Area requiring community-based public health services and activities

Field, which deals with preventable illness, disability and premature death

Scope that demands organizational, managerial and community leadership

Research in different aspects of health and advocacy

Bio-medical and sociobehvoural concept of public health

Differences and similarities between public health and clinical medicine

Concepts and distinction between public health, community health, social medicine and socialized medicine

b. Methods of public health

Epidemiological approach

Demographic approaches

Public health laboratory science approach

Economic theory approach

Management theory approach

Sociological and anthropological approach

Psychological and behavioral approaches

c. Preventive Health

Concept of prevention (communicable and non communicable disease models)

Levels of Prevention
Strategies of prevention
Practices of prevention

d. Health Promotion

Concept of health promotion
Ottawa Charter of health promotion
Priorities for health promotion (in reference to Jakarta Declaration)
Scope of health promotion

e. Public health systems and factors affecting public health system

Concept of public health system
Factors influencing public health and public health system
 Internal factors within the community, country
 External factors outside the country: international relations, resolutions of global events like Alma-Ata Conference, ICPD, People's Health Assembly and others

f. Current public health problems and issues

Health transition: changing health problems, values and norms of people, opportunities and challenges in health
Epidemiological transition and concept of double /triple burden of diseases, re-emergence of diseases
 Group I communicable diseases
 Group II non-communicable diseases
 Group III trauma and injuries

g. Development of public health in Nepal

Ancient and pre unification period
Pre Rana Regime period
Rana Regime period
Public health after 2007 BS

Unit 2. Primary Health Care (PHC)

30 hrs

a. Historical background of Primary Health Care

Investment on health and outcomes
Inequality in health

Success stories in health in some countries

People's efforts to address health problems

b. Alma-Ata Conference on Primary Health Care

Concept, principles and strategies of Primary Health Care

Basic components of Primary Health Care

Declaration of Alma-Ata Conference

Challenges and obstacles to PHC: selective PHC, cost recovery of health services, Structural adjustment programs and investing in health care.

Unit 3. Operational approaches and strategies of Primary Health Care

30 hrs

a. Community Health Development

Community Organization: concept, principles, processes and importance

Role of health workers in community organization

Application of community organization theory and practice in community health program

Definition of development: concept and goals of community development

Health and different economic, political, social aspects of development

Ways of viewing community development: as a process, method, program, and movement

Techniques of community development and their application in public health programs: external agent technique, internal resource mobilization technique, multiple agent technique

b. Feature of community development in Nepal and their application in health programs

Emphasis on all round integrated development, rural development

Principles of mobilization of local resources /sustainable development

Participation of the Village Development Committees, role of health workers, NGOs, CBOs and INGOs in community health development

Poverty alleviation

Gender and social inclusion

c. Community Participation in Community Health Service

Concept of community participation with special reference to health service delivery and utilization

Levels of community participation: compliance, collaboration

Concept of community empowerment and local control

Forms and process of community participation in health programs

Involvement of communities in health service delivery and utilization process, participation in phases of resources identification, health needs identification, planning health program, implementation, monitoring and assessment

Enabling factors for health workers related to Community Participation

communication skills: Interpersonal and group communication

process of conducting meetings, discussions and decision making

skills of involving community members in implementing health program

d. Group dynamics and leadership

i. Group dynamics

Concept of group dynamics

Propositions about groups

Natural and planned formation of groups

Stages of growth of a group

Group roles

Group problems and their effects on community health programmes – apathy or non participation, conflict, hip-pocket decision and hidden agenda

Ways of reducing group problems

ii. Leadership

Concept of leadership

Types of leaders

Techniques of identifying leaders

Role of community leaders in community health programme

Health workers' relationship with leaders and its impact on community health programme

e. Resource mobilization

Technique of involving community members in identifying resources available in the community for health programs

Mobilization of existing health committees

Unit 4. Public health service delivery

10 hrs

Concept of Health service delivery

Various level of health service delivery in Nepal

Various approaches of health service delivery in Nepal

Role of the District Public Health Office

Health work forces in Nepal

Concept and scope of curative, preventive and promotional health as defined in national health policy

Teaching Learning Methods

Teaching learning methods of this course include didactic lectures, seminar, group work, discussion in class room setting.

Observation visit of health institutions and facilities: Hospital, PHCC, HP, SHP, urban health clinics, to learn about the DOTS clinics, Fertility care services, Maternal and child health clinics and relevant organizations, Different Divisions of Department of Health Services, UN Agencies

5. Evaluation

Internal assessment in different forms	20%
Final examination	80%

6 Reference Materials

1. Dixit H. "The quest for health" Educational Enterprise.kathmandu, second edition.
2. Gartoulla Ritu Parsad "An introduction of Medical Sociology and Anthropology" RECID\N.Kathmandu 1998.
3. Gartoulla Ritu Parsad. "Therapy pattern of Conventional Medicine," RECID\N Kathmandu. 1998.
4. Hale C.Shrestha IB. Bhattacharaya A "Community Diagnosis" HLMC1997
5. Lal .Ramavadar . "Community Development: Principles, Practice and problems" Bookland Private Ltd.
6. Oakely,Peter "Community involvement in health development,an examination of the critical issues"WHO,Geneva, 1989.
7. Pradhananga Y.P. "Samudaya vikashma swastha Pakshya.
8. Pradhan,Hari Bhakta .A Text book of health Educational Enterprises,Kathmandu.
9. Ramchandran ,L and Dharmaligam,T " Text Book of Health Education ," Bikash publishing House Pvt.Ltd. 1983.
10. Ross M.G. Community Organization "Harper and Row ,1967.

11. Shrestha and Pradhananga “Samudaya Swasthya Shikshyao Rooprekha” Kathmandu institute of Medicine, 1986.
12. Cartright D and Zander A “Group Dynamic”.
13. Park JE and park K. “Text book of social and preventive medicine ,” 20th edition 2002.

Bachelor in Public Health

YEAR TWO

Paper VIII		
Course Title	Family Health I	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course Description

This course offers an opportunity to develop a holistic understanding of family health with life cycle and continuum of care perspectives. It helps to develop understating of health status and health problems of the different age groups, the challenges that exist and the approaches being tried to address those.

Course Objective

This course is designed to impart the knowledge and skill regarding family health with lifecycle and continuum of care perspectives.

At the end of the course the students will able to explain

1. the concept of family health
2. life cycle perspective of health
3. health status of the different age groups
4. understand the policies, strategies and programmes to address the needs of the different age groups from the governmental and non-governmental sectors
5. understand, plan and implement small projects to address the health needs of different age groups.

Course contents

Unit 1 Introduction to Family health

10 hrs

Explain concept on family health

Describe holistic model of family health biomedical, bio-psycho- social models and their determinants

Functions of family and its importance in health, illness, recovery and rehabilitation

Unit 2 Life-cycle perspective in health

10 hrs

Understand the concept of life-cycle perspective of health with examples

Life cycle perspective with major issues, and determinants, appropriate measures at different stages of life including, newborn health, child health, adolescent health, maternal health and health of elderly

Unit 3 Child health**20 hrs**

Child health situation of the Region and Nepal
Major determinants of childhood morbidity and mortality - neonatal, infancy and under five children
Underlying socio-economic, educational and cultural factors affecting child rearing and child care practices in Nepal
Mother's health and its relation with child health
Child survival strategies historical perspective and the current approaches
Policies, strategies and programmes to address newborn, infancy and under five
Progress in child health indicators and the lessons learnt
Describe importance and methods of child health surveillance

Unit 4 Adolescent Health**15 hrs**

Identify the adolescent health needs for growth and development of physical, emotional and social life.
Analyse adolescent's problems in Nepal, including teenage pregnancy, STDs, drug abuse, alcoholism, smoking, accidents, violence, crime etc.
Approaches to address the adolescent health needs, health promotion, life skill education including national adolescent health strategy

Unit 5 Reproductive Health**15 hrs**

Describe the concept of reproductive health, its determinants
Explain major components of reproductive health
Explain the major problems related to reproductive health (STD including HIV/AIDS)
Describe the approaches to address the reproductive health problems

Unit 6 Maternal Health**20 hrs**

Describe on maternal health situation (morbidity and mortality) and its determinants
Identify the approaches to address the maternal health problems
Discuss the components of maternal health services for maternal morbidity and mortality including PMTCT
Explain the approaches (Policy, Strategies and Programmes) to address the maternal health problems

Unit 7 Aging and Health**15 hrs**

Describe the concept of healthy aging
Identify the issues of healthy aging
Identify the major health problems and their magnitude
Describe approaches to address the health of elderly people
Discuss the role of the state and other sectors for support as well as social security

Unit 8 Family Planning and Contraceptive techniques**10 hrs**

Describe types and recent trends in contraception, their mode of action, efficacy, indications and contraindications. Importance of counselling and follow-up; calculation of indicators that are commonly used

Analyse the importance of FP programme in health (social, economic, environment, quality of life etc)

Discuss factors associated with use and non use of contraceptives, benefit, side effects, and contraindication of contraceptive devices

Describe the concepts of contraceptive services

Overview on concept Menstrual cycle, Conception and Contraception

Describe the benefit, side effect, contraindication of contraceptive device

Explain the approaches to conduct the FP programmes

Discuss the role men in family planning

Unit 9 Planning, organizing, managing and evaluating small health projects in child health, maternal health and family planning programmes**5 hrs****Teaching learning methods**

Class room lecture, Group work, discussion and presentation, Observation

Practical: Observation of different contraceptive methods, Observation of counselling for family planning, Observation at EPI clinics, Analysis of the secondary data from FP clinics, ANC

Evaluation criteria

Internal assessment in different forms	20%
Final examination	80%

References

1. Women of South East Asia, A Health Profile WHO
2. Situation analysis, Women and Children of Nepal, UNICEF
3. Nepal Demographic and Health Survey
4. Child Nutrition and Health, Ramesh Kant Adhikari and Mriam Krantz
5. Reproductive Health, WHO
6. National HIV/AIDS Policy
7. Family Planning Policy and Strategy
8. Safe Motherhood Policy
9. Reproductive Health Protocols
10. STD Case Management Guidelines
11. National Medical Standard Vol. I & II & II'
12. Reproductive Health, WHO National Health Policy- 1991
13. National Reproductive Health Strategy
14. National Adolescent Health Strategy
15. Beijing Conference On Women- 1997

16. Active Ageing: A Policy Framework Noncommunicable Disease Prevention and Health Promotion Department, World Health Organization
17. Maternal and Reproductive health journals, journals related to newborn, child and adolescent health and aging.

Paper IX		
Course Title	Health Promotion and Education I	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course Introduction

This course offers an opportunity to develop a holistic understanding in the field of public health particularly by studying the concept and role of health promotion and health education in promoting health, preventing diseases, protecting health and controlling epidemics. It also helps to develop understating of theories and principles of health promotion and education including various fundamental factors involved in health education process focused on bringing about favourable changes in health behaviours of the people. Helping develop skills in selecting appropriate health education methods and media and their uses is another important aspect of the course. Participants of the course will be crucial in establishing norms of healthy people in healthy environment through the application of health promotion and education theories and principles.

Course Objectives

1. Describe the role and importance of health promotion and education in public health
2. Describe and differentiate the meaning, definitions, principles, scope, strategies, approaches and various models of health promotion and education
3. Applies the theories, principles of learning, motivation, perception, and behaviour framework in health promotion and education process
4. Describe health belief, behaviour and various behaviour change models in line with health promotion and education process
5. Define and describe the concept, elements, process, types and barriers to communication in health promotion and education process
6. Describe various methods and media of health education and their appropriate selection and use
7. Prepare and use selected health education media in classroom and field setting

Course Contents

Unit 1 Health Promotion

30 hrs

Context of health promotion in public health

Meaning of health promotion: general meaning as promoting health in the context of promotive, preventive, curative and rehabilitative health

Ottawa Charter and definition of health promotion

Overview the Health Promotion strategies and actions as proposed by Ottawa Charter

Build healthy public policy

Create supportive environment

Strengthen community action

- Develop personal skills
- Reorient health services
- Overview of international declarations, statements, charter and recommendations supporting the action areas of health promotion and education
 - The Adelaide Recommendations on Healthy Public Policy
 - The Sundsvall Statement on Supportive Environment
 - The Jakarta Declaration on Health Promotion
 - The Mexico Statement
 - The Bangkok Charter
- Vision, mission, goal and objectives of health promotion
- The process of health promotion: Focus, strategies, impact and outcomes
- Outcomes of health promotion: Intermediate health outcome and health promotion outcomes
- Approaches of health promotion: healthy settings, healthy population and healthy life-styles
- Aim, activity and value of general approaches to health promotion: medical, behavior change, educational, planned and social change approaches
- Overview of various models and dimensions of health promotion
- Overview of International Union for Health Promotion and Education (IUHPE): background, goal, objectives, organization structure, activities
- Overview the vision, mission, goal, strategies and activities of Victoria Health Foundation in health promotion

Unit 2 Health Education

30 hrs

Introduction to health education

- Concept and role of health education in preventive, promotive, curative and rehabilitative ends
- Overview and critical analysis of various definitions of health education: Definition of DB Nyswander, Mayhew Deriberry, Dazzle Ward, Thomas D. Wood C.E. Turner; RE Grout, L.W. Green; C W Stuart, WHO Scientific Group; SOPHE/AAPHER, National Education Association (NEA/AMA)
- Aims, purpose, and principles of health education
- Scope and content of health education

Health behaviour and behavioural change process

- Definition, concept of human behavior
- Concept and principles of behaviour change and the change process in health
- Various models of behavior change: EM Rogers's adoption process and Kurt Lewin's model of health behavior change
- Educational process for health behavior change
 - Cognitive skill, (knowledge)
 - Affective skill (attitude)
 - psycho-motor skill (overt)
- Meaning, concept and process of voluntary and planned change
- Resistance to change and overcoming resistance to change
- Community organization strategy for health behavior change

Fundamental factors involved in health education process

- a. **The process of knowing:** stimuli, sensation, perceiving and health knowledge
- b. Learning in health education
 - Meaning and definitions of learning
 - Principles of learning
 - Steps in learning as: information, motivation readiness to act, taking action
 - Various modes of learning
- c. **Perception in learning and health education**
 - Meaning and definition of perception
 - Principles of perception
 - Factors affecting perception: psychological and socio-cultural
- d. **Motivation in learning and health education**
 - Definition of motivation
 - Motives and drives
 - Theories of motivation propounded by Maslow, Rosenstock, Kurt Lewin and Buchman, Kelly

Unit 3 Health communication and health education methods and media**30 hrs****Health communication**

- a. Meaning and definition of health communication
- b. Elements and process of health communication
- c. Various models of communication: Aristotle, Cloud Shannon, Schramm, Leagans and summary of the models
- d. Nature of one way and two-way communication
- e. Principles of effective health communication
- f. Health communication barriers and ways to overcome them
- g. Behavioral change communication (BCC)
 - Meaning, aims and features of BCC
 - Strategies of BCC and their application in health education process
- h. The idea of information, education and communication (IEC)

Health education methods

Meaning and importance of health education methods

Meaning, feature, use and strengths and limitations of various types of health education methods:

Individual methods: counselling, interview

Group methods: demonstration, group discussion, buzz session, field trip, workshop, symposium, mini-lecture, brain storming, interview forum, role play

Mass methods: exhibition, advertisement, film show, public addressing system - speeches, miking, radio (AM & FM) broadcasting, television telecast, internet

Selection of appropriate method of health education

Criteria for the selection of suitable method: nature and size of target population, stage in behavioural change (adoption) process, nature of health education contents (messages)

Practice in techniques of use of individual, group and mass method in classroom and field setting

Media of health promotion and education

Meaning and importance of health education media

Meaning, feature, process of preparing/production, use and strengths and limitations of various types of health education media::

Audio media: songs, stories, radio jingle, spots and announcement

Visual media: poster, flash cards, flip charts, , hand bills, pamphlets, slides, film strip, models, hoardings, banners, stickers

Audio visual media: film, video, television, hand puppets

Selection of appropriate health education media: Criteria for the selection of health education media: nature and size of target population, stage in behavioural change (adoption) process, nature of health education contents (messages)

Preparation and use of selected health education media in classroom and field setting:

Technique of preparation and use of poster, flash card, flip chart, pamphlet, song, video clips and scripts, radio spots

Unit 4 Various approaches to health promotion and education

15 hrs

Pedagogy vs andragogy (Non-formal adult education (NFE) approach)

Conscientization (Paulo Freire) approach

Propaganda approach

Social marketing approach

Child to Child approach

Distance learning approach

Risk Approach: Tobacco use, Indoor smoke, Macro/Micro nutrition, sexual behaviour etc

Unit 5 Roles of health promotion and education in public health programmes

15 hrs

Role and functions of health education specialist

Role and functions of non-health education specialist, health professionals and health workers in health education

Role and functions of health education and health promotion as disciplines in

Primary Health Care

Promotion of health, prevention of diseases, and control of epidemics

Various public health programmes such as malaria, Dengue, Kala-azar control, tuberculosis control, NPI, FP/MCH, CDD and ARI Programmes

Teaching Learning Methods

The teaching learning activities will be continued around mini lecture, group work and discussion, field visit, seminar and report writing. The instructional materials will be

Usual classroom materials: chalk board, flip chart, overhead projector, power point presentations

Flexible classroom for lecture and group work

Governmental and non-governmental organization having on - going health education programme

Computers with multi-media soft wares

Sample of evaluation reports

Evaluation

Internal assessment in different forms

(Written class test – 10%, Term paper – 4%, Project work – 6%) 20%

Final examination 80%

References

- 1 Green, LW, Introduction to Health Education, Macmillan Publishing Co., 1984.
- 2 Mayshork, c., et.al., Methods in Health Education St. Louis: C.V. Mosby, 1965.
- 3 Egger, Garry, et.al, Health Promotion Strategies and Methods, Sydney: McGraw-Hill Book Company
- 4 Ramchandran, L and Dharmalingam, T., Textbook of Health Education, New Delhi: Vikash Publishing House Pvt. Ltd. 1983.
- 5 Pradhan, HB., A Textbook of Health Education: Philosophy and Principles. Kathmandu; Educational Publishing House , 2003.
- 6 Shrestha, DB and Pradhananga, YP., Samudaya Swasthya Shikshyako Ruprekha. Kathmandu: Educational Publishing House
- 7 Pathak, RP and Giri, Rk: A Textbook of Public Health and primary Health care Development, Vidhyarthi Prakasan (P) Ltd. Second Edition 20011
- 8 JE Park and K Park; Preventive and Social Medicine, M/S Banarsidas Bhanot Publishers, Prem Nagar, Jabalpur, India, Recent edition
- 9 David Werner and Bill Bower; Helping health Workers Learn; T Hesperian foundation, Palo Alto, USA
- 10 HS Ross and PR Mico; Theory and Practice in Health Education; Maryfield Publishing Company; 285 Hamilton Avenue; Palo Alto, California, USA.
- 11 David Werner: Where There Is No Doctor; revised for India by voluntary health association of India
- 12 Green L W, Kreutr MW: Health programme planning: An educational and ecological approach : McGraw-Hill companies inc NY; 4th edition
- 13 Health behaviour and health education: theory, Research and Practice; edited by Glanz K, Lewis FM and Rimer BK; Jossey-bass Publishers San Francisco

Paper X		
Course Title	Epidemiology I	
Hours: 120	Full Mark: 100	Pass Mark: 50

Total credit hours: 120

Course Introduction

This is a fundamental course of epidemiology designed to define and understand the natural history of disease, classify diseases and measure by Time, place and person and establish causation of disease.

Course objectives

At the end of the course, the students will be able to understand and apply the principles of epidemiology in the prevention and control of diseases and in the planning and evaluation of health services and programmes. Specifically students will be able to

1. explain agent, host, and environment interactions and be familiar with different models of disease occurrence
2. define and describe natural history of disease
3. understand measures of disease frequency
4. understand and describe the types of epidemiological studies
5. understand and appreciate the potential errors in epidemiological studies
6. describe association and causal inference in epidemiology
7. use epidemiological concepts, methods and strategies for prevention and control of diseases
8. apply epidemiological principles and methods for the planning and evaluation of health services and health programmes including screening

Course Contents

Unit 1 General Epidemiology

40 hrs

Terminologies used in epidemiology of communicable diseases:

infection, communicable disease, pollution, contamination, infestation, epidemic, endemic, sporadic, pandemic, epizootic, enzootic, source of infection, reservoir, case, carrier, host, incubation period, communicable period, secondary attack rate, agent, antigenicity, infectivity, pathogenicity, virulence, infective dose, environment, vector, parasite

Spectrum of health and disease

Natural history of disease

Disease transmission, prevention and control:

- relationship of agent, host and environment
- ways of breaking the infectious disease cycle
- prevention and control of communicable diseases

Concepts of control and eradication of disease including disease surveillance

Defence mechanisms of the body:

- Immunity, immunization, herd immunity, planning and implementation of immunization programmes

Clinical epidemiology:

- Introduction, definition of normality and abnormality, sensitivity, specificity, predictive value, ROC curve (receiver operating characteristic curve), prevention in clinical practice

Unit 2 Basic Epidemiology

80 hrs

Introduction

Science, research and epidemiology

Definition, scope, concept, uses of epidemiology and its historical development

Distribution by time, place, and person

Characteristics of person:

Intrinsic condition of person: age, sex, religion, ethnic background

Extrinsic condition of person: education, language, socio-economic status, culture

Characteristics of place:

Geographical distribution: rural-urban, regional, national, international

Characteristics of time

Short-term fluctuations: common-source, propagated, slow epidemics

Periodic fluctuations: seasonal and cyclic trends

Long-term or secular trends

Measures of disease frequency

Rate, ratio, proportion, population at risk, prevalence (rate), incidence (rate), cumulative incidence proportion

Mortality and morbidity rates

Measures of association:

Absolute risk: risk difference, attributable fraction, population attributable risk

Relative risk/risk ratio

Odds ratio

Types of epidemiological study

Descriptive studies/observational studies

Analytical studies: ecological, cross-sectional, case control, cohort

Experimental studies: Randomized controlled trials, field trials, community trials

Association and causation

Epidemiological triad, wheel, and pie models of disease

Types of associations

- Establishing causal relationship
- Issues in deriving causal inferences
 - Bias
 - Confounding
 - Interaction
- Sources of data
 - Principal sources of data and their types and reliability
 - Limitations of sources of data: vital records, census, morbidity and mortality surveys, Disease notifications, registrations
- Epidemiological classification of diseases
 - Idea and need for classification
 - Principles of classification
 - International Classification of Disease (ICD)
- Investigation of an epidemic and its management
- Applying epidemiology to evaluation and policy
 - Evaluating health services and screening programmes
 - Epidemiology and health policy

Teaching Learning Methods

Lectures, group discussion, interaction, presentations, critical review of article and library study

Evaluation Criteria

Assessment of students will be carried out by teachers during the period of the course, such as class tests, project reports. University exams will take place at the end of each year. Full marks and pass marks for the examination will be as follows:

1. Internal assessment: 20 (Full marks); 10 (Pass marks)
2. Final examination : 80 (Full marks); 40 (Pass marks)

Reference

- 1) R. Bonita, Basic epidemiology 2002
- 2) Park, Textbook of preventive and social medicine
- 3) L. Gordis, Epidemiology 4th edition 2008
- 4) AB Joshi, Fundamentals of epidemiology vol I and II
- 5) Barker DJP, Practical epidemiology
- 6) K. Rothman, Epidemiology: an introduction

Paper XI		
Course Title	Community Health Diagnosis (Residential Field)	
Hours: 120	Full Mark: 100	Pass Mark: 60

Course Introduction

Community Health Diagnosis is an integrated course comprising several sub-specialties within community medicine course at large. This course is designed to enable the students to apply the principles of Primary Health Care (PHC) in the process of community health diagnosis. The aim of the community health diagnosis is to acquire skills to apply basic methodologies of community medicine – epidemiology, biostatistics, demography, family health, environmental health, health education, and public health sociology/anthropology. The course will also be helpful in learning from the community.

The course consists of the following components

Unit 1. Community Health Diagnosis theory

Unit 2. Community Health Diagnosis residential field

Course Objectives

The course aims to enable the student

1. Describe community health diagnosis
2. Explain importance of community health diagnosis in public health
3. Integrate different public health disciplines to address health problems
4. Acquire basic skills of conducting community health diagnosis

Course contents

Unit 1 Community Health Diagnosis (Theory)

Introduction to community health diagnosis

Concept and objectives of Community Health Diagnosis

Differences and similarities between Community Health Diagnosis and clinical diagnosis

Discuss the importance and relevance of Community Health Diagnosis for public health professionals

Components and processes of Community Health Diagnosis

Components of Community health diagnosis
Steps and processes of community health diagnosis
Different approaches to Community Health Diagnosis
Different method/techniques (observation, interviews, focus group discussion, participatory appraisal, etc.) and tools (observation checklist, questionnaire, discussion guideline, etc.) used in Community Health Diagnosis.
Importance and ways of prioritization of the problems in the community
Community diagnosis and health surveillance in Primary Health Care
Concept of micro health project in relation to Community Health Diagnosis

Designing the study to make the community diagnosis

Setting of objectives
Choosing variables required meeting objectives.
Generation of methodology, including sampling method, survey instruments, logistic, data analysis, presentation and communication of health information.
Interpretation of information
Content analysis and describe the results obtained.
Ethnical aspects (Ethnical aspects of community diagnosis
Review of epidemiological studies (Review of theories, formula and indicators)
Plan and techniques of presentation
Recommendation

Format for report of community diagnosis.

Preparation of written community diagnosis report: steps, components and format.

Unit 2 Community Health Diagnosis (Residential field)

Unit objective

- a. Communicate with the people in relation to the health problems in the community in socio-cultural context of the community
- b. Apply different methods to collect data required for community diagnosis.
- c. Use different tools of data collection that is required for community diagnosis
- d. Analyze and interpret the data to identify the problems and ways of their solutions in the community
- e. Prioritize the problems based on observed and felt needs and available resources.
- f. Dissemination of the findings of community diagnosis process by presentation to the community and in the campus.
- g. Identify the community resources to address the problems
- h. Plan and implement a micro health project based on prioritization of needs with the participation of the community.
- i. Write a report of community diagnosis.

Community Health Diagnosis (Field)

In the community – rapport building, meeting with the people, data collection, preliminary analysis, community presentation, prioritization of the problem, implementation of micro health project

Presentation in the campus

Submission of the report to the Department of Community Medicine and Family Health

Methods

There will be separate methods for Unit 1 and Unit 2 of the course.

Teaching learning methods of unit 1 include theory lectures, discussions, presentations by the students and integrated teaching.

For Unit 2 the students will be placed in the community for the period of 30 days in small groups. Prior to departure to the field, one week orientation will be given to the students.

Orientation to the students

Orientation about the community they will be posted

Orientation about process of field work

Development of the specific objectives by each group

Development and pretest of specific tools for data collection,

Development of work plan in the community

Organize logistics

Evaluation

Community Health Diagnosis theory and integrated teaching	40 marks
Internal assessment	8
Final examination	32
Community health Diagnosis residential field	60 marks
Internal evaluation	20
Final viva	40

References

1. Hale. C; Shrestha IB and Bhattacharya A “Community Diagnosis Manual” HLMC, IOM 1996.
2. Mc Curker J “Epidemiology in Community Health; American Medical and Research Foundation” Rural Health series, Kong M.et. al. “Tropical Medicine”.
3. Programme. FJ Bennett [ED]: “Community Diagnosis and Health Action- a manual for tropical and rural areas” 1997.
4. Sydney L. Kark MD. “The Practice of Community Oriented Primary Health Care”. Appleton- Century Crafts, A Publishing Divisions of Prentice- Hall Inc 1987.
5. Vaughan JP and Morrow RH [ED]; Manual of Epidemiology for District Health Management”. World Health organization. Geneva 1989.

Paper XII		
Course Title	Environmental Health and Occupational Health II	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course description

The course offers an opportunity to understand and internalize emerging environmental issues and problems globally and locally. The course is also expected to help the students to link between the major environmental concerns to the implication of public health in general. The course will also apply the theoretical and conceptual knowledge and available environmental policy in understanding human activities in deteriorating and exploiting the environment and find a sustainable way for its mitigation.

The course consists of the following sections

- a. Applied environmental issues and health
- b. Occupational health

Course objectives

Objective of the course is to assist the students to understand, describe, explain and analyse the following

1. Environmental pollution and its health impact
2. Environmental Toxicology assessment and management
3. Environmental regulations at global, regional and national level
4. Environmental biotechnology and Public health
5. Occupational Health and Safety
6. Importance of Ergonomics in work place

Course contents

The course contents are divided into two groups with several units. The contents are elaborated under each of the units.

A: Applied Environmental health

Unit 1 Environmental pollution and its health impact

15 hrs

Concept of environmental burden of disease

Spatial and temporal emerging issues including Arsenic

Acid rain, ozone depletion, global warming

Climate change and health impact

Measures adopted at local to government level to combat climate change impacts

Unit 2 Environmental Toxicology**15 hrs**

Fate or sources of pollutants

Environmental Hazards and risks

Biological hazards

Chemical hazards

Physical hazards

Psychological hazards

Environmental health risk assessment

Unit 3 Environmental health management**15 hrs**

Map Reading and Orientation for environment Management

Type of maps, Map Orientation, Scale, Contour, Drainage, Land use, Settlement, Roads, Infrastructure services Administrative boundary, Index or Legend

Environmental Impact Assessment (EIA, IEE, SEA)

Environmental Health Impact Assessment (EHIA)

Environmental assessment of health organization

Environmental monitoring and evaluation

Environmental management in disaster

Environmental accreditation

Unit 4 Environmental regulation**5 hrs**

Global and national initiatives related to environmental health: policies, plan, strategies, and legislations including conventions and treaties and Environment health programmes

Unit 5 Environmental Biotechnology and Public health**10 hrs**

Concept of biotechnology to pollution control

Biodegradation of pollutant

Microbial bioremediation, phyto-remediation

Bio-safety

Risk assessment of biotechnological products (genetically modified foods and organisms)

Bio-safety guidelines

B: Occupational Health

Unit 1 Occupational Health and Safety

10 hrs

Historical development

Definition

Concept

Principles

Elements

Unit 2 Industrial Hazards

20 hrs

Occupational Dermatitis

Occupational respiratory diseases

Silicosis

Pneumoconiosis

Asbestosis

Byssinosis

Bagassosis

Farmer's lung

Bird Fanciers lung

Unit 3 Agriculture is a big industry

20 hrs

Sectors

Health hazards

Managements

Occupational health risk factors and their management

Health problems of aging population

Health problems of child care workers

Women workers and their risk factors and their management

Professional risk factors and their management

Worker's compensation

Ergonomics

Labour Act, occupation health policy in terms of social, political and economic aspects

Unit 4 Professional health hazards

10 hrs

Road Traffic Accident (RTA)

Chronic Obstructive Pulmonary Disease(COPD)/Bronchial Asthma

Smokers' lung

Health profession

Teaching learning methods

Teaching learning methods of this course includes didactic lectures, group work, and discussion in the class room setting.

Laboratory demonstration classes will be held along with hands on exercise. Educational tour will be organized to visit different organizations related to environmental issues

Evaluation

There would be a separate performance evaluation of section A and B

Internal assessment in different forms (Written test, term paper, demonstration report, presentation)	20%
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Final written examination	80%
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References

1. Allen. T.F.H. and T.W. Hoekstra, 1992. Towards a unified ecology. Columbia University.
2. Baldwin. John. 1985 Environmental planning and management, Westview press, Boulder and London.
3. Capra. Frijof. 1982. The turning point: Science, society and the rising culture. Published by Fontana Paperbacks.
4. Corson, W.H. 1990. The Global ecology handbook, beacon press, Boston. USA.
5. DOHS. 2011. Annual report of department of health services, Nepal
6. Miller. G. Typler . 1988. Environmental science, Wadsworth publishing company, Belmont. California.
7. Odum. 1971. Fundamentals of ecology. Saunders College Publishing.
8. Wilson, E.O. 1988. Biodiversity, National Academy Press. Washington. D.C.

Paper XIII		
Course Title	Medical Sociology and Medical Anthropology	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course Description

The course imparts the basic concepts and understanding in Sociological and Anthropological subject matter, theories, concepts, trends and cultural systems. The course aims to impart the basic concepts and the knowledge in medical sociology/anthropology, socialisation in health, culture and health, provider consumer relationships in public health, indigenous health care system, alternative health care practices, behavioural sciences, and research and health politics.

Course objectives

Objective of the course is to help the students to understand, describe, explain and analyze

Sociological and anthropological concept applied to public health

The concept of Sociology/Anthropology in Public Health Science/sector

The holistic cross-cultural approach in planning, execution, monitoring and evaluation of health programmes

Historical development of society and health care practices

Ethno-medicine, socio-cultural patterns, socialisation, indigenous and alternative health care practices

Provider-consumer relationship at their work settings

Sociological and anthropological research methods in public health research

Social psychological factors for motivation in adopting of innovations on acceptance of appropriate health care facilities as per the need.

Health politics and develop appropriate system of health

Course Content

The course contents are divided into several units. These contents are elaborated under each of the units.

Unit1 Sociology

10 hrs

Historical Development of Society

General outline of the subject matter of sociology

Definition of sociology
 Typological subject matter of sociology
 Relationship of Sociology with Anthropology, Psychology, Public Health and Health Education
 Sociological contributions in Public Health

Unit 2 Anthropology **10 hrs**

Anthropology
 Scope of Anthropology
 The holistic approach
 The sub-division of Anthropology
 Anthropological contributions in Public Health

Unit 3 Concept of Social Processes **15 hrs**

Socialization: Meaning, Definition, Characteristics, Agent/Agencies and Stage of Socialization.
 Acculturation: Introduction, Characteristics
 Assimilation: Meaning, Definition, Characteristics, Factors favoring Assimilation
 Enculturation: Meaning and Definition
 Conflict: Introduction and Characteristics
 Social Institution
 Introduction, Definition, Characteristics, Types and Basic Function of Marriage Family, Kinship System,
 Religious, Political Economical and social Institutions: Introduction, contribution on health development
 Cultural and Social Change
 Introduction, Definition, Characteristics of Social Change and Cultural Change
 Factors of Socio-cultural Change
 Process or Mechanism of Socio-cultural Change
 Consequences of Social and Cultural Change

Unit 4 Medical Sociology/Anthropology **15 hrs**

Introduction to Medical Sociology/Anthropology
 Criteria and Contributions of sociology/anthropology to Public Health

The present status of Medical sociology/Anthropology
Difference between Illness, sickness and diseases

Stages of Illness

The symptom experience stage.
Assumption of sick role stage.
The medical care contact stage.
The dependent / patient role stage.
The recovery of rehabilitation stage

Unit 5 Interpersonal Relationship (Provider-Consumer/user Relationship) 15 hrs

Meaning and significance of inter-personal/Provider-Consumer/user Relationship
Talcott Parsons model of the doctor – patient relationships applied to Public Health
The Szasz – Hollander model applied to Public Health
Communication pattern between professional and indigenous health care practices

Unit 6 Culture and health 15 hrs

Meaning and definition of culture
Characteristics of culture
Elements of culture
Personalistic and naturalistic health care system
Practice of family medications in Nepal
Role of indigenous healers and alternative medications in Nepal

Unit 7 Sociological/Anthropological Research Methods applied to public health 15 hrs

Sociological and Anthropological research methods applied to public health
Types of anthropological research methods
Ethical guidelines
Data collection technique and tools
Process of field work
Data processing and presentation

Unit 8 Behavioral Sciences (Psychology)

15 hrs

Terminology: Terminology and concepts useful in studying health problem, body-mind relationship, Level of consciousness, Dynamic system of personality, Drives and motives, Adjustment mechanism, Stress, crisis and disease

Definition and significance of behavioural science

Relationship between sociology, psychology anthropology and public health.

a. Motivation

Meaning and definitions of motivation

Maslow's concept of human motivation, including hierarchy of needs

Role of motivation in learning and health education

Motivation and adoption of innovation

Motivation towards utilizing modern health facilities

b. Emotion

Meaning, characteristics

Theories of Emotions

States of Emotions: Positive emotion (Love, Laughter, Hope, Optimism, Self Confidence and Negative emotion (Anger, Fear, Sadness, Boredom, Guilt)

Unit 9 Health Politics applied to Public Health

10 hrs

Health Politics (Concepts and challenges)

Primary health care: The root for health politics

Comprehensive or Selective

The health economics of CPHC and SPHC

Executive, Legislative, and judiciary aspects of Health in Nepal

Teaching learning methods

Teaching learning methods of this course include didactic lectures, seminar, group work, presentations review papers discussion in class room setting.

Evaluation

Internal assessment in different forms	20%
Final examination	80%

References

1. Acts and Rules of Nepal
2. Bhatia and Bhatia: Psychology
3. Constitution of Nepal
4. Dixit, H (1999): Quest for Health, Educational Book Enterprises, Kathmandu
5. Foster, George, M., Anderson, B.R., (1978); Medical Anthropology, Alfred A. Knopf, New York
6. Freeman, E. Howard, Levine, Sol, and Reeder G. Leo edited (1979): Handbook of Medical Sociology; Third Edition, Prentice-Hall, Inc. Englewood Cliffs, New Jersey
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11. Hoebel E.A. And Frost, E.L. (1979): Cultural and Social Anthropology, Tata McGraw-Hill Publishing Company Ltd, New Delhi
12. Mechanic, D. (1968): Medical Sociology : A selective view, New York, The Free press
13. Park and Park: Preventive and Social Medicine, Banaridas, India, Recent edition
14. Warner D (1995): Life and Death of PHC, Mexico
15. Warner, D. Health care and human dignity. Contact, Special series No.3.98.100. (1980).

Paper XIV		
Course Title	Public Health Administration and Management I	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course Introduction

The course offers opportunity to learn the modern concepts and principles of administration in general and public health administration in particular. The student will also get an opportunity to familiarize with the basic concept of the health economics, financing and health budgeting. The course attendant will also develop the competency of project formulation and management.

Course Objectives

1. Introduction to the concepts of administration and management, general administration, development administration and health administration.
2. Explain the modern concept of administration and principles of management.
3. Explain the components of public health administration.
4. Explain the need for competent administration in health services.
5. Describe organizational development and techniques of improving administrative and management effectiveness.

Course Contents

Unit 1 Introduction to Public Health Administration & Management 20 hrs

Concept, Principles and scope of public health administration and Management
Philosophy, methods and objective of the delivery of public health services
Functions of public health management \administration

Unit 2 Models of PHA and Management 80 hrs

POSDCROB model
Planning of Health Service
Introduction to health services
Strategy formulation
Elements of planning
Different method of planning
Setting objectives: operations, research for planning
Management approach in planning
Types of health planning
Problem solving planning
Programme planning
Co-ordination of efforts and activities planning
Planning for the allocation for resources

- Creation of a plan
- Design of standard operating Procedure
- Project Planning

Organization of Health Service

- Introduction
- Importance of organization structures [organs gram]
- Organization theory: a) Classical b) modern

Staffing Aspects of the Organizing Functions

- Staffing pattern
- Role and responsibilities
- Recruitment and placement
- Career planning opportunities training promotion
- Performances appraisal
- Staff grievances and negotiations
- Human resources development

Directing

- Introduction
- Human factor
- Keys to successful directing
- Delegation as a means of directing
- Motivational aspects
- Leadership
- Communication
- Monitoring, supervision and evaluation

Controlling function in health services administration

Co-ordination of Health Services

- Introduction
- Types of co-ordination
- Conceptual co-ordination
- Functional co-ordination
- Organizational co-ordination

Budget

- Introduction, Process of budgeting
- Fiscal planning [budgeting, accounting and auditing]

Reporting

- Importance
- Techniques of report writing format and content

Unit 3 Management Promotion Strategies**10 hrs**

Organizational communication
Organizational development
Organizational behavior management
Management evaluation

Unit 4 Project Formulation and Management**10 hrs**

Project identification
Project proposal writing
Identifications of funding sources
Project management
Project monitoring
Programme evaluation review technique\ critical path method

Teaching learning methods

Teaching learning methods of this course include didactic lectures, seminar, group work, and presentations review papers discussion in class room setting.

Evaluation

Internal assessment in different forms	20%
Final examination	80%

References

1. Dixit, H. "Quest for Health" Educational Enterprises, Kathmandu, 1999.
2. Estimating costs for cost –effectiveness analysis guidelines for Managers of Diarrhoeal Diseases Control Programme.
3. "Financial Health Service in Developing Countries" An Agenda for Reform. A World Bank Policy Study Washington D.C. 20433 USA.
4. Griffing CC "Health Sector Financing in Asia". The World bank Report No. IDP 68, August.
5. Honion, Homian "Public Health Administration".
6. Lee K [Education] "The Economics of Health in Developing Countries" Oxford University Press. 1983.
7. Tripathy PC and Reddy PN " Principles of Management"

Bachelor in Public Health

YEAR THREE

Paper XV		
Course Title	Family Health II	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course Introduction

This course builds on the family health content of the second year and deals with the application of the knowledge in the respective fields. Additional knowledge and skills are gained in the area of responsible parenthood, gender, gender analysis and mainstreaming, gender sensitive health planning with a right based approach. Gender based violence as public health problem and the role of health worker/manager in addressing the problem; the basic concept and the root causes of inequity and measures to address it in the health sector are also dealt with.

Course Objectives

This course is designed to impart the knowledge and skill in applied aspects of family health with gender and life cycle perspective for health development.

Objective of the course is to help the students to understand, describe and explain

1. Importance of family in health, illness and recovery
2. Responsible parenthood and its importance for family and beyond
3. Concept of some child health problems as social problems
4. Concept of women's health, gender and development
5. Gender and its effect on health
6. Basic concept of gender analysis and mainstreaming
7. Gender based violence
8. Basic concept of marginalisation and its impact on health

Course contents

Unit 1. Family Health and Responsible Parenthood

20 hrs

Family health needs and determinants of healthy family
 Functional and dysfunctional families
 Reproductive health concept and elements
 Meaning and concept of responsible parenthood
 Preparation of parenthood, practices and requirements
 Responsible parenthood practices and its effect on family health

Unit 2. Social problems in children**20 hrs**

Street children

Physical and sexual abuse of children,

Abandoned children, street children and child labour

Conflicting situation, urbanization and refugee situation on children

Child trafficking

Drug and alcohol abuse among children

Unit 3. Disability and Rehabilitation**15 hrs**

Concept of disease, impairment, disability and major factors leading to disability

Concepts of rehabilitation including community based rehabilitation

Preventive measures

Policies, security and legal issues regarding persons who are differently able

Unit 4. Women health, gender and development**25 hrs**

Introduction to gender and health

Concept of sex and gender

Gender roles, gender norms and gender based discrimination, including its impact on health (both the health of men and women with a life cycle perspective)

Development approaches (WID, WAD and GAD)

Introduction to women and health

Status of women's health in national and international contexts, Concept of women and health, difference between the health of men and women

Women specific health problems: Uterine prolapse, breast cancer, cervical cancer, fistula, STI/PID, HIV/AIDS and its implication on family health.

Difficult life circumstances and its impact on women, the policy and programs in place to meet the basic health needs of socially and politically displaced persons:

Destitutes (society, family)

Refugee (political)

Internally displaced (political and social)

Disaster and war

Gender sensitive health policy, program planning, monitoring and interventions programs

Basic concept of gender analysis

Basic concept of gender mainstreaming including the national policy of mainstreaming gender

Role of men in bridging the gender gap

Gender friendly health services

Women's empowerment and agenda for empowerment (legislation, female education, social and political participation, labour saving technologies, economic upliftment opportunities)

Unit 5. Gender Based Violence and Family Health

30 hrs

Concept, Scope and evolution of gender based violence

Factors contributing to violence

Types of violence including girl trafficking

Life cycle of violence

Social and health effect of violence on age groups: children, adolescents, youth and adult

Steps towards eliminating gender based violence:

Public health responsibilities for preventing violence

Education for violence prevention, including the role of the media

Roles of family members for prevention of violence at home

Roles of family members on STDs, HIV/AIDS cases along with other chronic problems, feasibilities, violence created problems, drug abuse and sexual abuse

Unit 6. Equity and access

10 hrs

Basic concept of inequity, social exclusion and marginalisation and its impact on health

Addressing equity and access issues in health sector

Teaching learning methods

Class room lecture, Group work, discussion and presentation, Observation

Evaluation criteria

Internal assessment in different forms	20%
Final examination	80%

References

1. WHO “Women of South East Asia, A Health Profile”
2. Convention On Elimination Of Discrimination Against Women Population and Development UNFPA. Cairo- 1994
3. Gender Based Violence, Health System Response, Management Protocol for Health Service Providers and Managers, DoHS/ MoH&P/WHO, Family Health Division, 2005
4. Integrating Poverty and Gender into Health Programmes: Module on Ageing A Sourcebook for Health Professionals, www.wpro.who.int, World Health Organization
5. A Workbook on how to plan and carry out research in MCH including FP Division of
6. Family health WHO, Geneva 1984 or latest edition.
6. Besise , LH. Potanguy J "Violence Against Women : the Hidden Health Burden".

Paper XVI		
Course Title	Health Promotion and Education II	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course Introduction

Health Promotion and Education is indispensable in order to ensure success, quality and sustainability of any health programs and services. It is a cross-cutting issue and one of the important responsibilities of public health professional. Therefore, they need to have a clear concept of planning, implementation and evaluation of overall health promotion and education programmes and skills to apply the theories and principles in real job situation. Hence, the course aims at development of necessary knowledge and skills at professional level to ensure proper planning, implementation and evaluation of health promotion and education programs and services in public and private organizations and facilities.

Course Objectives

Objective of the course is to help the students to

1. Describe the need for application of health promotion and education theories and principles in promoting health, preventing diseases among people in various social and occupational settings
2. Describe need for a planned health promotion and education programme for various settings and population groups
3. Describe various components of planning, implementation and evaluation of health promotion and education programme
4. Assess the need and prepare a sample plan for implementation and evaluation of health promotion and education programme for selected settings and population groups
5. Implement and evaluate a miniature health promotion and education project (field work – practical) in a selected occupation settings and population groups
6. Critically appraise the health promotion and education situation in Nepal and recommend suitable action.

Course Contents

Unit 1. Application of health promotion and education (HP&E) theories and principles including planning, implementation and evaluation **20 hrs**

Concept of and application of HP&E in various settings

Characteristics of various settings and people for the application of HP&E theories and principles

Community at large, village/urban settlements, family, school, health service centers etc.

Occupational settings: agricultural, business, industries, hospitality and entertainment etc.

Schools: public and private concern for formal and non-formal education

Special risk groups: drug users, commercial sex workers, PLWHIV/AIDS, rack pickers, adolescents, consumers

Organizations concerned with special communicable diseases (Malaria, Dengue, Kala-azar, TB, leprosy, HIV/AIDS, etc.) and non-communicable disease risk factors.

Unit 2. Concept of planning of health education programme

25 hrs

Concept of and need for planned health promotion and education programme - proactive and reactive planning

Classical and PRECEDE/PROCEED framework for diagnosis, planning and implementation of health promotion and education programs

Steps in planning health promotion and education programme

Identification of the health problem to be dealt with by educational process

Identification of target population or target group

Health behaviour, its foundation (knowledge, attitude and practice) and comprehensive framework for Educational Diagnosis (PRECEDE)

Setting priorities for an educational intervention

Setting goals, behavioral and instructional objectives and indicators for health promotion and education program

Development of contents and messages for health promotion and education

Selection of appropriate methods and media of health promotion and education

Identification of resources to be utilized in health promotion and education process

Development of a detailed plan of operation for health promotion and education program

Development of a detailed plan for monitoring and evaluation of health promotion and education programme

Unit 3. Implementation of health promotion and education program**10 hrs**

Organizational and individual commitment to the action plan

Committing financial resources

Mobilizing human resources

Recruitment, training and development of human resources health promotion and education

Conducting health education session following the plan

Supervision and monitoring in health education program

 Concept of health promotion and education supervision and monitoring

 Tools of educational supervision

 Supervisory system of health promotion and education activities in Nepal

Recording and reporting of health education program implementation including Health Education Management Information System (HEMIS)

Unit 4. Evaluation health education programme**15 hrs**

Concept and purposes of evaluation of health education program

Types or stages of evaluation

 Process evaluation

 Effect

 Impacts

Evaluation plan

 Identification of programme goals and setting evaluation objectives with suitable indicators

 Setting evaluation criteria: appropriateness, adequacy, effectiveness, efficiency as applied to survey areas

 Choosing appropriate evaluation methods/techniques

 Constructing measurement tools (questionnaire, checklist, etc.)

 Collecting information

 Processing and analyzing information

 Interpreting information and presenting findings

 Concluding and recommending

Unit 5. Planning, implementation and evaluation of health promotion and education activities in various settings **10 hrs**

Rural setting (rural population)/
Urban settings (including slums and squatters),
Family setting (Family Health),
School/colleges (School)
Health service centers: hospitals, health posts (Health Promoting hospital)
Agriculture setting (farmers)
Business setting (shopkeepers, vendors, employees)
Industrial setting (Health Promoting workplace)
Hospitality and entertainment setting (food handlers, customers, entertainers)
Health Education and Promotion during Disaster and Epidemics

Unit 6. Planning, implementation and evaluation of education program on selected health problems **10 hrs**

Malaria, TB, HIV/AIDS,
Gastro-intestinal diseases
Diabetes, Heart diseases (NCD)
Nutrition and malnutrition,
Immunization
Reproductive health and Family planning
Environmental health, hygiene and sanitation

Unit 7. Training in and overview of health promotion and education in Nepal **10 hrs**

Overview of human resource in health education in Nepal
Role, functions and activities of National Health Training Center and other academic institutes in training in health education
Development of health promotion and health education in Nepal
Health education in National health policy and five years plan
Overview of health education program of MoH; INGO, NGOs and bilateral organizations
Career opportunities in health education
Role, functions and activities of National Health Information, Education and Communication Center (NHIECC)

Teaching Learning Methods

The teaching learning activities will be continued around mini lecture, group work and discussion, field visit, seminar and report writing. The instructional materials will be

Usual classroom materials: chalk board, flip chart, overhead projector, power point presentations

Flexible classroom for lecture and group work

Governmental and non-governmental organization having on - going health education programme

Computers with multi-media soft wares

Sample of evaluation reports

Evaluation

Internal assessment in different forms

(Written class test – 10%, Term paper – 4%, Project work – 6%) 20%

Final examination 80%

References

1. Green, LW. et.al., Health education Planning; A Diagnostic Approach. California: Mayfield Publishing company, 1980.
2. Pradhan, HB., A Textbook of Health Education, Educational Resources for Health, Kathmandu
3. Shrestha, DB and Pradhananga, YP., Samudaya Swasthya Shikshyako Ruprekha, Kathmandu
4. Pathak, RP and Giri, RK: A Textbook of Public Health and primary Health Care Development, Vidhyarthi Prakasan (P) Ltd. Second Edition 20011.
5. David Werner and Bill Bower; Helping health Workers Learn; T Hesperian foundation, Palo Alto, USA
6. HS Ross and PR Mico; Theory and Practice in Health Education; Maryfield Publishing Company; 285 Hamilton Avaneue; Palo Alto, California, USA.
7. David Werner: Where There Is No Doctor; revised for India by Voluntary Health association of India
8. Green L W, Kreutr MW: Health Program Planning: An educational and ecological approach : McGraw-Hill companies inc. NY, 4th edition
9. Health behaviour and health education: Theory, Research and Practice; edited by Glanz K, Lewis FM and Rimer BK; Jossey-bass Publishers, San Francisco

Paper XVII		
Course Title	Epidemiology II	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course Introduction

This course will give the epidemiological research perspective of various infectious and non-infectious diseases. Adequate techniques will be discussed to evaluate, assess and manage different surveillance, monitoring programs and interventions in the field of public health.

Course Objectives

After completion of the course students will be able to:

- understand and describe the application of epidemiological principles and methods in prevention and control of communicable and non communicable diseases
- appreciate importance of screening and surveillance programs in public health services
- apply burden of disease concept to plan, organize and manage health programs
- explore epidemiological aspects of conflict and disaster management
- understand concept and principles of social epidemiology
- conduct field epidemiological studies

Course Contents

Unit 1. Applied Epidemiology of major diseases prevalent in Nepal

40 hrs

Infectious diseases:

- Water-borne:
 - Protozoal infections: amoebiasis, giardiasis,
 - Parasitic infections: taeniasis, ascariasis
 - Bacterial infections: E. Coli infection, cholera, typhoid and paratyphoid, Salmonellosis, botulism, shigella dysentery, salmonella dysentery, leptospirosis,
 - viral infections: hepatitis A, poliomyelitis, rotavirus
- Vector-borne:
 - Dengue, Japanese encephalitis, kala-azar, malaria, filariasis, plague, trachoma
- Air-borne:
 - Bacterial infections: pulmonary tuberculosis, diphtheria, pertussis, anthrax
 - Viral infections: influenza, chickenpox, measles, mumps, rubella
 - Bacterial and viral infections: pneumonia, meningitis
- Contagious:
 - HIV, STIs, hepatitis B, Leprosy, scabies

- e. Fungal infections:
Dermatophytosis, candidiasis, aspergillosis
- f. Others:
Snakebite, scorpion bite

Zoonotic diseases

Rabies, bovine tuberculosis, brucellosis, echinococcosis
Collaboration between veterinary and medical services

Noncommunicable diseases

Multifactorial determinants, growing nature of problems, and methods of analyzing information to determine etiology of noncommunicable diseases; road traffic accidents, diabetes, cardiovascular disease, chronic obstructive respiratory disease, cancer, drug abuse

Nutritional deficiencies: malnutrition, micronutrient deficiency (nightblindness, anaemia, iodine deficiency disorders)

Unit 2. Screening and Surveillance Programme 10 hrs

Screening programs

Disease surveillance programs in Nepal

Unit 3. Major Public Health Programs in Nepal 20 hrs

Unit 4. Field Epidemiology 10 hrs

Concept of field epidemiology

Field techniques

Concept of research proposal

Development of test instruments

Methods of collecting information

Interview techniques and tools

key informant interview

Observation: concept and observation checklist

Secondary data analysis

Unit 5. Social epidemiology 10 hrs

Evolution of epidemiology with reference to social epidemiology

Meaning, scope and application social epidemiology in Public Health
 Concept of Stratification and Social class
 Role of social epidemiology in designing disease control plan and strategies
 Limitations of social epidemiology

Unit 6. Epidemiological aspects of Conflict and Disaster Management

10 hrs

Application of epidemiology during conflict and disaster
 Epidemiological studies during conflict and disaster
 Consequences of conflict and disaster
 casualties
 disease outbreak
 famine and starvation
 higher morbidity and mortality
 Disaster planning, preparedness and prevention
 short-term management:
 management of health problems
 intersectoral cooperation and coordination
 mobilization of resources
 long-term management (forecasting of disasters)
 Conflict management

Teaching Learning Methods

Lectures, group discussions, library study assignments, home Assignments, and field trips.

Students will be assigned an example of a common disease for which they will conduct an epidemiological study using different study designs in a real life situation in order to understand the current prevalence, disease trends, and management for the prevention of that disease. In this unit following specific areas of applied epidemiology will be addressed.

Evaluation

Internal assessment in different forms	20%
Final examination	80%

References

- MoHP/DoHS [Nepal]. Annual Report.
- DOHS, Epidemiology and Disease Control Division. Control of Communicable Disease Manual 2003.

- c. Chin J. Control of Communicable Disease Manual, an Official Report of the American Public Health Association, 2000.
- d. DOHS, Epidemiology and Disease Control Division. National Recommended Case Definitions and Surveillance Standards 2003.
- e. Vazquez M, LaRussa PE, Gershon A, et al. The effectiveness of the varicella vaccine in clinical practice. N Engl J Med 2001; 344: 955-960.
- f. Beaglehole R, Bonita R, Kjellstrom T. Basic Epidemiology. World Health Organization, Geneva, 1993.
- g. Gordis L Epidemiology. 2nd Edition, WB Saunders Company, Aharcourt Health Sciences Company, Philadelphia, 2000.
- h. MacMahon B, Trichopoulos D. Epidemiology: Principles and Methods. 2nd Edition. Boston: Little, Brown, 1996.
- i. Principles of Epidemiology: An Introduction to applied Epidemiology and Biostatistics. 2nd Edition. US Department of Health and Human Service, CDC, Atlanta Georgia
- j. Rothman KJ, Greenland S. Modern Epidemiology. 2nd Edition, Lippincott- Raven publishers: 1998.
- k. Rothman KJ. Epidemiology: an Introduction. Oxford University Press, 2002
- l. Park K "Textbook of social and preventive medicine" 21st edition

Paper XVIII		
Course Title	Health Economics and Health Financing	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course Introduction

This course deals with Health Economics and Health Financing concepts, principles, theories and issues and it is helpful to the students for Programming, implementation and evaluation of the Public Health Program and Health Planning.

Course Objectives

1. Develop the knowledge and skills on micro and macro level economic intervention and appraisal in health.
2. Clarify the basic concepts, terms, contribution and technique of economics to the health sector.
3. Illustrate and state the role of demand and supply in health care market.
4. Identify the sources of financing in health sector and analyse the equity, efficiency and sustainability of various alternative financing schemes.
5. Describe the process of budgeting and prepare budget for District Health Office.

Course Contents

Unit 1. Introduction

5 hrs

Definition of Economics

Definition of the common terms used in Economics; Goods, utility, value production, consumption, price and cost

Meaning, concept and scope of Health Economics

Application of Health Economics in developing and developed countries

Significance of Health Economics in Health planning and health financing

Unit 2. Micro and Macro Economics

10 hrs

Concept of Micro and Macro Economy

Concept of Micro and Macro Economy in Health care market

G.D.P and G.N.P

National income

Sources of National Income

Unit 3. Micro Economic Tools for Health care **10 hrs**

Concept of law of diminishing marginal utility

Demand/ Supply

Definition ,law, limitation, importance of the law of demand and supply

Supplier induced demand

Market equilibrium in Social and Health care market

Elasticity of demand and supply

Definition ,price elasticity, income elasticity and cross elasticity

Importance of elasticity of demand and supply

Elasticity of demand for health care and its measurement

Unit 4. Markets and Market Failure in Health Care **10 hrs**

Definition of Market

Market mechanism in health care

Public goods, externalities (positive and negative)

Marketing system from monopolistic to perfect competition in social and health care market

Role of government in health care market

Unit 5. Cost Concept **10 hrs**

Definition, Direct/Indirect cost, Average, Marginal and Total cost, Unit cost, Capital and Recurrent cost, Fixed and Variable cost, Tangible and Intangible cost, Financial and Economic cost.

Cost Analysis

Discount rate, Break-even Analysis and Present Net Value of Cost

Unit 6. Economic Evaluation **20 hrs**

Definition, Steps, Importance and Constraints of Economic Evaluation

Tools and Techniques of Economic Appraisal

Cost minimization analysis

Cost benefit analysis

Cost effectiveness analysis
Cost utility analysis (QALY, DALY)

Unit 7. Health Care Financing **5 hrs**

Meaning and scope of health care financing
Alternative health care financing
Health Insurance
Social health insurance, community health insurance, micro health insurance and private health insurance

Unit 8. Equity and Efficiency **5 hrs**

Concept of equity in health
Vertical equity and horizontal equity
Concept of efficiency
Economic efficiency, Allocative efficiency and Technical efficiency

Unit 9. Health Budgeting **10 hrs**

Concept, types of budget- Regular, development, program and operating budget
Overview of national health budget
Principle of budgeting
Characteristics of budgeting
Preparation, screening, sanction and receipt of budget
Agencies involved in budgetary process

Unit 10. Health service resource identification and allocation **5 hrs**

Government and private sources
Historical allocation
Modern allocation
Advantages and disadvantages

Unit 11. Book keeping **5 hrs**

Definition of book keeping

Concept of entry, transaction, assets, capital and liabilities, capital and operating expenditure, debit and credit, ledger and journal

Different methods: Single and Double entry system

Account

Concept, classification of accounts (real and nominal accounts, suspense accounts)

Unit 12. Audit

5 hrs

Concept of audit, types of audit.

Teaching Learning Methods

Didactic lectures, seminar, group work, discussion in class room setting, observation visit of relevant institutions and organizations

Evaluation

Internal assessment in different form	20%
Final examination	80%

References

1. Phelps, Charles E “Health Economics (3rd ed.)” Boston: Addison Wesley, 2003
2. Alastair M. Gray, Philip M. Clarke, Jane Wolstenholme, Sarah Wordsworth “Applied Methods of Cost-effectiveness Analysis in Healthcare” Oxford University Press, 2010
3. Mills A, Gilson L “Health Economics for developing countries” A survival kit, EPC publication number 17, summer 1988 (Reprinted August 1992)
4. Lee K (Ed) “The Economics for developing countries” Oxford University Press, 1983
5. Health Economics Association Website: <http://www.healtheconomics.org/>
6. Health Economics Education Website: <http://www.economicsnetwork.ac.uk/health/>

Paper XIX		
Course Title	District Health Field Practice	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course Introduction

This comprehensive field practice will provide the students an opportunity to develop skills which will make them a competent public health professional with the ability to identify health problems and needs of the district and community. This course will also enable them to assess resource potentials and constraints, prioritize the health problems and set strategies for solving them, collaborate to develop suitable options and action plans for addressing the health problems in district. They will also be able to work in promotive, preventive, curative and rehabilitative health services as part of district health team. Students will learn supervision and monitoring of district health programs, developing action plans for feasible and effective solution to problems found in collaboration with district stakeholders.

The total duration of this residential field will be **60 days** in the district. One group composed 5-6 students will be sent to the field.

Course Objectives

Upon successful completion of this course the students will be able to

- Explore health problems and needs in the district including factors associated with those problems
- Assess existing and potential resources for addressing the health problems
- Identify constraints which may hinder successful application of solutions
- Prioritize health problems and needs of district and generate appropriate strategies for health development
- Coordinate health and non-health sector activities in order to accomplish health service goals
- Perform organizational management skills including
 - Inter and intra-sectoral coordination
 - Direction training and motivation of health personnel
 - Supervision and monitoring of different health personnel and health programs towards achieving goals
 - Development of sense of team spirit and taking collective responsibility and participation in fulfilling goals and objectives of District Health Office
 - Recording and reporting system
 - Two-way referral and feedback system from grass-roots level through health post to district hospital and back down
- Develop him / her as a qualified public health professional able to act as an adviser and counselor in public management, public health services and research.

Course Contents

Orientation on comprehensive field practice

- Orientation to rationale for field program

- Orientation to district field site and logistics

- Orientation to field activities

Activities in district health organization

Group activities in district health organizations (DHO/DPHO, NGOs, INGOs, hospital, private sector, DEO and other health and health related organizations) to

Prepare management profile including present status of

- Major health problems of the district

- Health planning process and programs/projects in district level

- Health services organization structure

- Staffing patterns

- Coordination with other related organizations (line agencies, NGOs, INGOs)

- Supervision and monitoring system

- Budgeting

- Health management information system

- Logistics system and

- Recording and Reporting System

Critically analyze the status, strength and weakness of each of the management components

Closely observe organizational manager's work activities in the organization

Recommend alternate strategies for strengthening the management components

Organize a seminar to present the district health management profile in district and campus

Apply the knowledge and skills learned in anyone of the following subjects e.g. epidemiology, biostatistics, health education, food and nutrition, school health, mental health and environment, family planning, MCH etc as to carry out a mini action project.

- Develop a mini action project based on prioritization of problems and health needs.

- Implement the mini action project developed as above.

- Evaluate mini action project and give suggestions and recommendations.

Preparation of District Health Management Profile

- Major health problems of the district

- Health planning process and programs/projects in district level

- Health services organization structure

- Staffing patterns

- Coordination with other related organizations (line agencies, NGOs, INGOs)

Supervision and monitoring system
Budgeting
Health management information system
Logistics system
Recording and reporting system

Critical Appraisal of Health Management

Analyze the status, strength and weaknesses of each of the management components mentioned above using appropriate models.
Observe management system work activities in the organizations towards goal achievement.
Recommend for alternative strategy or re-strengthening the management component of overcoming the weakness for better management.
Organize a seminar to present a health management profile of organization in district/College

Mini Action Project

Apply the knowledge and skills learned in various disciplines of health sciences (epidemiology, bio-statistics, health education, food and nutrition, school health, health & environment, family planning, MCH, etc) to develop mini-action project in a group.
Develop a mini-action project with objectives formulated on the prioritized basis of problem and health needs.
Implement the mini-action project developed and discrimination of findings at district level.
Evaluate mini-action project.

Preparation and Submission of Field Study Reports

Prepare baseline demographic and health profile of the district acquired from secondary data on the basis of which write additional specific papers.
Develop a plan to improve the effectiveness of specific aspect of the district health system.

Teaching learning method

Workshop, Seminar, Group discussion, Field work

Evaluation

Evaluation by local field supervisor	5 %
Evaluation by department (campus) supervisor	10 %
District seminar	5 %
Presentation of field work at campus	20 %
Mini Action Project	10 %
Oral defence and written report	50 %

References

1. Field Manual

Paper XX		
Course Title	School and Community Health	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course Introduction

This course cultivates the students a holistic understanding of health promoting school, mental health, oral health, eye health and ear care and its application in public health. The course consists of following components.

1. Health Promoting School
2. Mental health in public health
3. Oral health in public health
4. Primary ear care and prevention of hearing impairment
5. Primary eye care and prevention of blindness/visual impairment

Course Objectives

This course is designed to impart the knowledge and skill in applied public health aspects of school health, mental health, oral health, eye health and ear health. This course will develop knowledge and skill to plan, implement and evaluate the health promoting school in the community.

Objective of the course is to help the students to understand, describe and explain

Concept of health promoting school including its components

Process to develop health promoting school in a community

Planning, management of health promoting school

School health policy and rules on health

Linkages and coordination with existing health and education sectors to develop health promoting school

Course contents

Unit 1. School health: Health promoting school

30 hrs

Basic concepts (Theory)

Introduction to Health promoting school and its components

Rationale of Health Promoting school

Overview on health promoting school program

Methods of developing health promoting school in community

Management of health promoting school

Coordination and linkages with concerned stakeholders, health education etc to develop health promoting school

Components of Health Promoting school (theory)

School health policy

Health teaching

Healthful school environment

School health services

School community participation for HP

Practical

Overview on Planning, implementation and evaluation

Planning of SHP

Implementation: Process orientation to conduct practical on HP school promoting school in a community using the theoretical knowledge

Selection of community/school

Planning, implementation and evaluation

Practical to conduct health promoting School program

Evaluation of health promoting school

Unit 2. Mental Health in Public Health

20 hrs

Concept of Mental Health

Concept of normalcy, normal mind, characteristics of abnormalities

Prevailing misconception about occurrence and treatment of mental illness

Description of measurable indicators of positive well being, good psychological adjustment

Personality development [including behavioural, psychodynamic, cognitive, moral and other schools of personality development]

Brain and behaviour: mind body relationship

General psychopathology

Providing information to the health community about type, causes, clinical features, treatment and prevention of the following groups of mental disorders

a. Organic, including symptomatic mental disorders

Mental and behavioural disorders due to psychoactive substance use [with special emphasis on prevention of substance abuse]

Schizophrenia, schizotypal and delusional disorders

b. Functional

Mood disorders

Neurotic, stress- related and somatoform disorders

Behavioural syndromes associate with physiological disturbances and physical factors

Disorders of adult personality and behaviour

Disorders of psychological development

Behavioural and emotional disorders with onset usually occurring in childhood and adolescence

Community Mental Health program

Mental health education for the individual and the community

Providing information about the concept of integration of mental health with general health services

Techniques of case finding, information about treatment facilities

Epidemiology of mental illness

Applications of principles of prevention of mental illness

Primary Prevention

Secondary Prevention

Tertiary Prevention

Assistance in rehabilitation of mental oil and retarded

Psychosocial rehabilitation

Social rehabilitation

Occupational rehabilitation

Institutionalization and deinstitutionalisation

Mental health of children and women

School mental health

Planning mental health services for the community

Behaviour implication of mental illness

Role of traditional healers and other community leaders in the improvement

Unit 3. Oral Health in public health

20 hrs

Oral health education: concept of, magnitude of the problem types of oral health problem, its determinants and management process

Distinguish between normal and decayed teeth
 Identify plaque and calculus
 Describes between normal and diseases gums
 Describes caries and periodontal diseases
 To explain less harmful food stuff and eating habits
 Explain the way of preventing dental caries and periodontal diseases
 Plan, implement school program on oral health and hygiene
 Oral Disease Prevention and Health Promotion
 Public Health Agenda to Improve Oral Health
 Oral Disease Burden
 Interventions for Oral Disease Prevention
 Public Health Agenda
 Oral Hygiene and Gum Diseases
 Gum Disease Could Cause Heart Failure and Respiratory Problems.
 Ways to Help Kids Avoid Periodontal Disease
 Dental Care and Pregnancy

Unit 4. Primary Ear and Hearing Care

20 hrs

Chronic Disease Prevention and Management
 Introduction to hearing loss mean
 Congenital hearing loss problem
 Hearing loss among children, and adult
 Causes of hearing loss before or during birth and after birth
 Assessing hearing and counseling
 Symptoms to look for if a child has an ear infection
 Ability of Deaf and hard of hearing people
 Care of our ears
 Hearing aids
 Raising awareness

Unit 5. Primary Eye care

15 hrs

Prevention of avoidable blindness and visual impairment

Global trends of blindness and visual impairments
 Causes of blindness
 Common Eye problems
 Risk factors of ocular problems
 Prevention and control of ocular problems
 Strategies and policy of prevention and control of blindness: National and International
 Raising awareness

Teaching Learning Methods

Didactic lectures, seminar, group work, discussion in class room setting, observation visit of relevant institutions and organizations

Evaluation

Internal assessment in different forms	20%
Final examination	80%

References

1. Glde ifalis "Oxford Textbook of Psychiatry".
2. Gibbons, "Integrated Clinical Science Psychiatry".
3. Lawson RA "Essentials of Dental Surgery and Pathology".
4. Martin P "Care of the mentally ill. The essentials of Nursing "Macmillan Press. London.
5. Nepal M. Wright C "Manual of Mental Health" HLMC. Kathmandu, 1994.
6. Strategies to Programmote Girl's Education. Education Section. Program Divisions. UNICEF 1995.
7. Swift CR, "Mental Health" AMREF, Nairobi.
8. Wallace HM& Girk K, "Health Care of Women and Children in Developing Countries" 1990.

Paper XXI		
Course Title	Public Health Administrations and Management II	
Hours: 120	Full Mark: 100	Pass Mark: 50

Course Introduction

This course offers an opportunity for conceptual understanding of human resource development [HRD] and its specific application in human resource for health [HRH] development. The course attendants will attend lecture sessions as well as participate in seminar classes to discuss the modern concepts. Along with principles and strategies in the context of national health manpower development of Nepal, the course also provides opportunity to develop specific skills in the process of designing training courses and implementation and evaluation.

Course Objectives

Objective of the course is to help the students to

- Describe the modern concepts of planning. Production and utilization of Human Resource of Health.
- Critically analyse the HRH concepts as applied in the context of Nepal.
- Apply the concept of educational planning in the process of design, implementation and evaluation a training program.

Course Contents

Unit 1. Human Resource Management

50 hrs

Introduction to Human Resources Development

Human Resources for Health

Human Resources Planning

Human Resources Production

Human Resources Management Functions & Activities

Planning Function

Production Functions

Staffing Functions

Development Functions

Direction Functions

Evaluation Functions

Curriculum Development in Public Health Training

Introduction and Purpose to Curriculum Development

Concept of Curriculum

Process of Curriculum Planning

Principles of Curriculum Development
Types of Curriculum Development

Health Manpower Training

Concept of health manpower training and education
Training need identification, Task analysis, Purpose of training, Training Plan
Types of training
Planning for health manpower training
Selecting an instructional method according to need of the trainees
Implementation of training programme
Evaluation of training programme
Concept, need and organization of training of trainers (TOT)
National Policies, plans and programs related to training

Unit 2. Management Information System

30 hrs

Introduction to Management Information System
Definition and evolution, components of an information system
Information system resources, objectives and limitations
Concept of health information system, clinical information system
Information System Frameworks
Different perspectives on information system
System analysis: concept, system approach, system selection procedure
Types of information system, need for system analysis, role of system analyst
Health Systems Information System (HSIS)
Purposes and features of HSIS
HSIS tools and information dissemination
HSIS as monitoring and evaluation tool
Concept of health management information system, logistic management information system, financial management information system and human resource information centre
Ethical and Social Issues in Information System
A mode of thinking about ethical, social and political issues
Ethics in an information society: responsibilities, accountability, liabilities
Information rights: privacy and freedom in an information society
Property rights: intellectual property
E-commerce & E-bidding
Introduction to e-commerce
Electronic payment procedures
E-commerce trends, and
E-bidding procedure in health services management

Unit 3. Disaster Management

20 hrs

Disaster – Concept, history, types, causes and consequences

Disaster Planning and Preparedness
 Medical management of mass casualties
 Patterns of injuries and trauma
 Post-disaster assessment and recovery
 Post-disaster assessment and recovery
 Pitfalls and barriers in disaster planning and response
 Understanding the needs of special populations (ie, children, elderly, disabled)
 Disaster management cycle
 National policies, plans and programs related to disaster management in Nepal

Teaching Learning Methods

Didactic lectures, seminar, group work, discussion in class room setting, observation visit of relevant institutions and organizations

Evaluation

Internal assessment in different forms	20%
Final examination	80%

References

1. Leiyu Shi “Managing Human Resources in Health Care Organizations”
2. Walter J Flynn, Robert L Mathis, John H Jackson “Healthcare Human Resource Management” 2nd edition

Bachelor in Public Health

YEAR FOUR

Paper XXII		
Course Title	Public Health Research Methodology and Public Health Project Planning and Development	
Hours: 120	Full Mark: 100	Pass Mark: 50

Group A: Public Health Research Methodology

Full Marks: 50

Total Hours: 60

Course Introduction

This course has been designed to equip the student with the basic research tools and methods in public health sciences. The course aims to impart the basic knowledge on the concepts, methods, techniques and the process of developing suitable Research Proposal. The attendants of the course will be able to design and conduct public health research activities in the field to generate relevant information, which can be used for the improvement of the public health program in the country.

Course Objectives

Upon the successful completion of the course, students will be able to:

1. Explain the meaning purpose and importance of research in public health sciences.
2. Define and conceptualize basic terminology used in research
3. Describe the various types of research methods applicable in public health sciences.
4. Identify public health problems of Nepal on which research study can be carried out.
5. Describe the fundamental steps involved in the research process.
6. Apply qualitative and qualitative techniques of health research.
7. Design and develop Research Proposals in public health sciences.
8. Produce a research report on selected issues in public health.

Course Contents

Unit 1. Introduction to Research

5 hrs

Meaning, definition and purpose of research

Importance of research in public health

Basic terms used in research concepts

Unit 2. Types of Research and Research Methods

5 hrs

Basic and applied research

Types of research: description, action, operational research, evaluative and

Quantitative type of research

Analytical research methods (causal, experimental, content, analysis etc)

Unit 3. Steps of the Research Process

40 hrs

Selection of the problem

Sources of problems

Examples of problems

Review of the literature

Locating relevant literature

Documentation of literature

Note- taking (note – card preparation)

Preparation of bibliography

Computer search

Formulation of research objectives and hypothesis

Meaning and types of research objectives

Purpose of research hypothesis

Definition of research hypothesis

Types of hypothesis

Variables (independent and dependent, etc)

Operational definition

Research methodology

Research design

Meaning of research design

Need for research design

Features of good research design

Type of research design

One short case study

Randomized control group: presentation- test, post –test

Non- random control group presentation –test

One group time series

Control group time series

Sampling design and procedures

- Census versus sample
- Selection of sampling design
- Population under study
- Sampling frame
- Sampling unit
- Determination of sample size
- Sampling techniques

Instrumentation

- Scale and its management
- Checklist
- Questionnaire (designing, drafting, feature, of a good questionnaire)
- Focus group discussion
- Group interview
- Participatory research appraisal good questionnaire
- Pre- testing
- Reliability and validity
- Pilot study
- Data collection
- Primary methods of data collection: Interview, Mailed questionnaire, Direct observation, and Objective test

Secondary methods of data collection: Data from office records of institutions, journals, bulletins.

Data Processing

- Coding/editing
- Preparation of master tables \ master field book
- Tabulation

Analysis of data and findings:

- Presentation of data
- Selection on appropriate statistical techniques
- Descriptive and analytical statistical method e.g. means, standard deviation, probability, and normal distribution, parametric, and non-parametric, Inference and correlation and regression analysis.
- Conclusion, summary and recommendations

Preparation of research proposal [list of public health issues]

Health behaviour

Effectiveness of health promotion, disease prevention programs

Organizational problems in health services

Development of health intervention model

Community health status

Development of health education PROGRAM activities

Effectiveness of health education PROGRAM activities

Knowledge, attitude and practice surveys of health service delivery and health service utilization

Performance of health workers

Conducting research on a selected public health issue

Unit 4. Preparation of Report

5 hrs

Guidelines for students for the preparation of report

Unit 5. Process of Writing a Research Report

5 hrs

Preliminaries

Title of report

Approval sheet

Acknowledgements

Table of contents and figures

Body of report:

Introduction

Review of literature

Methodology [materials and methods]

Result and discussion

Findings

Conclusions and recommendations,

Reference cited

Evaluation

Internal assessment in different forms

10%

Final examination

40%

References

1. Fisher, A Laring , J and Stokle, J. “Handbook for family planning Operations Research Design” Population Council, 1991. Fisher, A Laring, J and Stokle, J. “Handbook for family planning Operations Research Design” Population Council, 1991.
2. WHO. “Health Research Methodology: A guide for training in research methods” 2nd Edition, WHO, 2001.
3. Corlien M. Varkevisser, Indra Pathmanathan & Ann Brownlee. “Designing and Conducting Health Systems Research Projects: proposal development and fieldwork” Vol-I, International Development Research Center (IDRC), 2003.
4. Corlien M. Varkevisser, Indra Pathmanathan & Ann Brownlee. “Designing and Conducting Health Systems Research Projects: Data Analysis and Report Writing” Vol-II, International Development Research Center (IDRC), 2003.
5. Kothari CK. “Research Methodology”, Willey Eastern Limited [Fourth reprint, 1989].
6. Kleinbam DG, Kupper LL, Morgenstem. “Epidemiologic Research - Principles and quantitative Methods”. Van Nostrand Reinhold, New York, 1982.
7. Moser C and Kalthon G. “Survey Methods in social investigational”. ELBS, 1979.
8. Pradhan HB. “A Textbook of Health Education” Educational Resources for Health [Second edition] Kathmandu. 1996.
9. Stpehen I. & Michael WB. “Handbook in research and evaluation” Edits Publishers. San publishers, San. Diego. California, Seventh print, 1976.

Group B: Public Health Project Planning and Development

Full Marks: 50

Total Hours: 60

Course Introduction

This course builds upon the skills and knowledge developed in Health project Planning and Development. This unit will provide an overview of project planning, development and implementation (including planning approaches, models and frameworks).

Course Objectives

Upon the successful completion of this practicum, students will be able to:

1. Understand the principles of project planning;
2. understand project resourcing and simple project budgeting processes;
3. select appropriate evaluation strategies; and
4. design a project strategy including needs assessment, problem identification, project design, implementation and evaluation strategy.

Unit 1. Project planning

25 hrs

Concept on project, importance and its types

Project Management Approach

Project Management Components

Project Life Cycle

Needs assessment, problem identification,

Tools of Problem Analysis

Planning and evaluation approaches, models and frameworks

Project design principles,

Unit 2. Budgeting, resourcing and long term sustainability

15 hrs

A best practice approach to project development and management

Unit 3. Project analysis principles and framework

20 hrs

Project assessment tools and framework (SWOT)

Project evaluation framework (Logical Framework Matrix)

Teaching learning method

Lecture and group work method will be adapted to develop knowledge and skill on project planning and development

During Practicum -the students apply the principles of project planning, development and implementation to real world health problems; and - evaluate health projects using standardized indicators.

Evaluation

Internal assessment in different forms	10%
Final examination	40%

References

1. Judith Dwyer, Pauline Stanton, Valerie Thiessen. "Project management in health and community services: getting good ideas to work" 2004.
2. Jack Gido, James P. Clements. "Successful Project Management" 2009.

Paper XXIII		
Course Title	Individual Health Research (Field based Practicum)	
Hours: 120	Full Mark: 100	Pass Mark: 60

Course Introduction

The course is designed to develop knowledge and skill on research method applied in the public health field. The basis of the research will be theoretical in out on research methodology dealt in paper... This practical based research work will help students to use the techniques of research methods to conduct or evaluate specific public health issue. In this paper students should develop proposal, conduct research work at field, analysis of data, preparation of research report and defense in external evaluation.

Activities of Individual Health Research

1. Selection of public health issues for research
2. Proposal development on selected public health issue
3. Proposal presentation
4. Supervisor assignment and consultation for further refinement of proposal
5. Field work for data collection
6. Data management, analysis and interpretation
7. Preparation of preliminary research report
8. Presentation of research findings
9. Final report submission
10. Final research report defense (external evaluator)

Format of individual health research report will be provided by the Department of Community Medicine and Family Health, Maharajgunj Medical Campus, Institute of Medicine.

Evaluation

Activities	Total Mark
Internal Assessment	50
<ul style="list-style-type: none"> • Proposal presentation • Supervisor evaluation • Research report evaluation 	
External Assessment	50
<ul style="list-style-type: none"> • Final defense 	

References

Paper XXIV		
Course Title	Health System Management and International Health	
Hours: 120	Full Mark: 100	Pass Mark: 50

Group A: Health System Management in Nepal

Full Marks: 50

Total Hours: 60

Course Introduction

This course provides an opportunity to the students to get acquainted with the history of health services development in Nepal. The course also helps the students to better conceptualize the national health policy and how the policy has been enacted at the central, district and grass root levels. It is expected that the students will develop a critical awareness of the problems and issues facing the health service management at various levels and will equip them with appropriate measures to address the problems.

Course Objectives

Upon the successful completion of the course, students will be able to:

1. Describe the history of the development of health services in Nepal.
2. Develop a profound understanding of the National Health policy.
3. Critically analyze the Problems and issues of the health services management at the central, district and the grassroots levels.
4. Develop, Ensure and provide quality health services in Nepal.

Course contents

Unit 1 Health Services

5 hrs

Concept of health services

Development of health care services in Nepal

Categories of health systems: Home-based, Traditional Faith Healing, Ayurvedic, Homeopathic, Unani, Naturopathic, Allopathic, and other alternative systems

Unit 2 Health Policies and Plans

10 hrs

Health planning and overview of the health planning process

Long-term health plans, periodic plans, Nepal Health Sector Programmes, national health policies

Essential health care services, free health services programme, sector wide approach (SWAP), integrated health services

Health sector reforms, public private joint initiatives

Millennium Development Goals for Health

Unit 3 Central Health Services Management

15 hrs

Organizational structure of health services: central, regional, and district levels

Descriptions and analysis of roles and responsibilities of departments and centres

Inter-sectoral coordination between all levels including central level (between ministries), district level (district level authorities), and grass-root level (local level GOs, and NGOs)

Logistic management: definition, goal, logistics cycle, components, logistic system of the health ministry, logistic management information system, Web-based LMIS, e-bidding in logistics management (e-management)

Unit 4 District Health Services Management

15 hrs

Management of district health services: functions, organizational structure, human resources, job description of all levels of health workers, monitoring and supervision system, on-the-job training and performance appraisal policies, district level programmes, monitoring and evaluation of district health programmes, responsibility towards regional health directorate

Management of primary health centres: functions, organization structure, human resources, role and responsibilities of PHC in-charge, programmes run by PHC, monitoring and supervision of the programmes.

Management of health posts, sub-health posts: management committee, functions, organizational structure, human resources, programmes, responsibility towards DPHO/DHO.

Local level programmes such as immunization, FP/MCH, nutrition, HIV/AIDS, and others.

Unit 5 Emerging Trends and Practices

5 hrs

eHealth applications, tele-medicine practices, traditional and complementary medicine (TCM), nutraceuticals.

Emerging issues and challenges in health systems and management.

Unit 6 Quality Assurance in Health Services

10 hrs

Definition and concept of quality assurance in health services

Standard guidelines for different types of health services/health institutions

Hindering factors to assure the quality in health services

Role of HMG/Professionals/individual role in order to maintain quality in health services.

The professional and individual role in order to maintain the standard health services.

Evaluation

Internal assessment in different forms	10
Final examination	40

Group B: International Health

Full Marks: 50

Total Hours: 60

Course Introduction

The course is designed to provide fundamental concepts of International Health with the aim of helping students to understand and critically analyze the implications of global relation in health system and public health. It consists of several sub-units. Each of the units is further elaborated with the teaching learning contents. The figures in the margin of each sub-unit indicate the hour of teaching.

Course Objectives

Specific/behavioural objectives of the course are stated under each of the units.

Course contents

Unit 1. Fundamentals of International Health **10 hrs**

The students will be able to describe

Concept of International Health

Scope and methods

Relevance of International Health in public health

Unit 2. Comparative analysis of health status across the globe **10 hrs**

The students will be able to

Compare the health status between different countries –international and regional - based on important indicators like life expectancy, infant mortality, childhood mortality, maternal mortality, disability and other burden of diseases.

Explain possible underlying causes of difference in health status between the countries.

Unit 3. Major partners of International Health **25 hrs**

The students will be able to

List and concepts of the following major partners of International Health

Multi-lateral agencies (WHO, UNICEF, UNFPA, WB, EU, SAARK, etc)

Bilateral agencies (DFID, USAID, AUSAID, JICA, etc)

Donors - Foundations

International Non Governmental Organizations

Transnational/Multinational Corporate

Describe roles and functioning of International Health partners

Unit 4. International collaborations, regulations and global events **15 hrs**

Describe the main features of:

World Summit for Children, UN Convention on Child Right.

Legal issues regarding handicapped persons.

International Covenant on Civil and Political Rights.

UN declaration on women right.

Convention on the Elimination of all forms of discrimination against women (CEDAW), Cairo resolution on women health, Beijing declaration.

Bamako initiative, Ottawa Charter.

People's Health Assembly.

Framework Convention on Tobacco Control (FCTC).

Teaching learning methods

Multiple methods will be used to acquire the above mentioned specific objectives

- 1 Didactic lecture : mainly on the basic concepts, principles and theories
- 2 Presentations and seminars : mainly on the events and issues of debate and diverse opinions
- 3 Participation in different academic events like guest lectures, national workshops /seminars
4. Self learning: mainly on the issues, where further explanations are desired and materials are easily available for reading.

Evaluation:

Internal assessment in different forms	10
Final examination	40

References

1. Nick Black and Reinhold Gruen. "Understanding Health Services" Understanding Public Health Series. Open University Press, 2005.
2. Rosemary McMahon, Elizabeth Barton & Maurice Piot. "On Being In-charge: A guide to management in Primary Health Care" 2nd Edition, WHO, 1992.
3. Linda A Hill. "Becoming a Manager: How New Managers Master the Challenges of Leadership" Harvard Business School Press, 2003.
4. Kenneth Blanchard & Spencer Johnson. "The One Minute Manager" 2008.
5. Dixit H. "Quest for Health" 2nd Edition, Educational Enterprise, 2003.
6. Michael Seear. "An Introduction to International Health" Canadian Scholars' Press Inc., 2007.
7. "The Family planning manager's handbook, basic skills and tools for managing family planning programs" editors, James A. Wolff, Linda J. Suttentfield, Susanna C. Binzen, 1991.
8. WHO. "Policy Papers on Health Nepal" WHO & MoHP/GoN/Nepal, 2007.
9. Joshi M; Adhikari R. "Manual of drug and therapeutics" HLMC, 1996.
10. Pradhananga YP. "Health and Health services in Nepal" .
11. Gill Walt. "Health Policy: An Introduction to Process and Power" Zed Books, 1994.
12. WHO. "Reports of Alma-Ata Conference on Primary Health Care" Vol.1-6, 1978.
13. Relevant materials and national and international publications on the topics of course contents.

Paper XXV		
Course Title	Comprehensive Public Health Practicum	
Duration: 6 months	Full Mark: 400	Pass Mark: 200

Course Introduction

Bachelor students in public health are given theoretical inputs and some practical exposure to the community and districts to understand fundamentals of different disciplines in public health and acquire relevant skills. This course is designed to provide the students with a full opportunity to experience and practice these knowledge and skills in extended way as a public health graduate.

The course is developed considering the core functions of public health: assessment of the situation, development of policies and assurance of service delivery.

Course Objectives

Objective of the course is to help the student to

1. Acquire skills to assess and describe the situation of public health problems and issues
2. Describe public health services delivered at different levels.
3. Acquire skills to manage and administer these public health services

The course components and activities

The course consists of four main components

1. Assessment of health situation
2. Policies and planning to address the health problems
3. Public health service delivery
4. Public health management and administration

Activities of the students during the practicum will be in relation to each of these course components.

Course Contents

Unit 1. Assessment of health situation

The student will carry out the following activities

Identify different sources of relevant health information within and outside health sectors,

Collect necessary additional primary information using different techniques and tools,

Review and analysis of health and health related information collected from different sources,

Observe the process of health and health related data collection, analysis and reporting,

Assess environmental determinants of health: drinking water situation, sanitation, health hazards, food and nutrition, socio-cultural determinants and factors affecting health.

Unit 2. Policy and planning to address the health situation

The students will be engaged in following activities

Participate in planning and decision making processes and observe the steps and process,

Interact with relevant people about the policy development and planning health services,

Review of relevant documents about the health policy and planning.

Unit 3. Public health services

The students will carry out the following activities

Review of public health services - promotive, preventive, curative, and rehabilitative provided by government, non government and private sectors; formal and non formal; modern, traditional, indigenous services.

Participate in different public health service delivery process in the community and in the health service delivery facilities.

Review of documents on the public health service delivery.

Assess distribution, adequacy and access to health services.

Assess equity, gender and social inclusion in health services.

Unit 4. Public health management and administration

The students will carry out the following tasks

Participate and assist to management – materials, human resource and administration.

Participate in evaluation, supervision and monitoring processes.

Participate in the process of coordination with other health and non health sectors.

Review of emergency and disaster preparedness and planning.

[Note: Students will prepare a comprehensive report of each of the unit]

Teaching learning method

An orientation programme will be organized to provide the information about the objectives and methods of practicum prior to placement. The students will be placed in different government and non governmental institutions, where the required learning facilities, as mentioned above, are available. Within the institution, student will be rotated in relevant sections or units closely work with the staff of the section. If required, student can be placed in other relevant institution for short period of time for specific purpose as demanded by the course. The total placement for practicum will be 6 months. Each of the students will be supported by a local mentor. The students will be supervised and provided with inputs and feedbacks by the faculty of IOM.

The student will periodically present own observation and impression to the concerned and relevant people for sharing and validation.

The student will be provided a manual explaining the details of learning approaches and processes.

Evaluation

1. The students will be evaluated in different stages and by different people. During the placement in practicum local supervisor or mentor and IOM faculty, during supervision, will evaluate the students.
2. The report of the student will be evaluated by the Department of Community Medicine and Family Health.
3. These evaluations will be considered internal and will carry 40%
4. IOM will conduct the final evaluation as oral viva, which will carry 60% of the total marks of practicum.

References

1. Dixit H. “Quest for Health” 2nd Edition, Educational Enterprise, 2003.
2. WHO. “Policy Papers on Health Nepal” WHO & MoHP/GoN/Nepal, 2007.
3. Previous report on District Health Management, project reports, annual reports, progress reports and relevant documents.