

Course Title	Public Health Research	
Fourth Year	Seventh Semester	Course Code : BPH 407.1-PHR
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Description

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 of public health research. This includes research approach, methods, techniques and process of public health research and its intervention in real fields. 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.

Learning Objectives

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

- Explain the meaning, purpose and importance of research in public health sciences.
- Define and conceptualize basic terminology used in research
- Describe the various types of research methods applicable in public health sciences.
- Describe the fundamental steps involved in the research process.
- Identify public health problems of Nepal on which research study can be carried out.
- Apply qualitative and qualitative techniques of health research.

Course Contents

Unit 1: Introduction to Research

2 Hours

- Meaning, definition, purpose and importance of research in public health
- Highlights of research process

Unit 2: Research Problem

2 Hours

- Identification of research area and selection of research problem(Preliminary literature review)
- Examples of research problems
- prioritization criteria of the research problem
- Sources of research problems

Unit 3: Review of the literature in various phases of research

2 Hours

- Sources of literature review
- process of search, documentation and reference style
- Uses of literature in research

Unit 4: Formulation of research objectives, research questions and hypothesis 4 Hours

- Meaning and types of research objectives (General and Specific)
- Definition of research question and hypothesis
- Purpose of research question and hypothesis
- Types of hypothesis and research question
- Variables and its types
 - Independent, dependent and intervening variables
- Conceptual framework of variables
- Operational definition of study variables: meaning and ways of writing operational definition

Unit 5: Types of research methods

4 Hours

- Meaning of research methods, selection of appropriate research methods
- Qualitative and quantitative research methods
- Descriptive, Analytical research method
- Applied research
 - Formative research
 - Operational research
- Basic research

Unit 6: Types of Research design

8 Hours

- Meaning of research design
- Need for research design
- Features of good research design
- Type of research design
 - pre-experimental
 - Case study
 - Cross sectional study
 - Quasi-experimental
 - Cohort study
 - Time series design
 - True-experimental study
 - Case-control and nested
 - RCT/Clinical Trial
 - Basic Concepts on Clinical Trials: Cross over, parallel design, community trials and blinding
 - Ecological study

Unit 7: Population, Sampling, and sampling procedures

4 Hours

- Population and census
- Sample- definition and need , determination of sample size
- Sampling technique
- Sampling frame, sampling unit
- Selection of sampling technique
- Study population

Unit 8: Instrumentation and data collection

A. Instruments

6 Hours

- Qualitative and quantitative data collection instrumentation
 - Qualitative eg: FGD, IDI, KII, PRA/PLA, Observation
 - Quantitative eg: questionnaire schedule, interview schedule
- pretesting/ pilot study of instruments and its importance
- reliability and validity check of and instruments

B. Data collection process

- primary method of data collection: interview, mailed questionnaire, observation and objective test (MRQ)
- Secondary method of data collection: Data from office records of institution, survey reports , journals and bulletins.
- Data collector and their orientation/training
 - data collection technique in field

Unit 9: Data Processing

2 Hours

- Quantitative Data
 - Coding and decoding, editing and feeding
 - Data set and cleaning
 - Generation of master tables\Dummy table
- Qualitative information
 - transcribing(if needed)
 - sorting, categorization

Unit 10: Analysis of data and findings

A. a. Data Analysis (Quantitative)

6 Hours

- Selection on appropriate statistical techniques
- Descriptive and analytical statistical method e.g. means, standard deviation, standard error, probability and normal distribution; parametric and non- parametric; Inference, association, correlation and regression analysis.

b. Data Analysis (Qualitativ)

- content analysis
- meta analysis

- narration
- triangulation
- B. Finding of the study**
- findings on demographic variables
- finding of variables
- finding on bi-variables and multi-variables
- describing and interpretation
- summarizing, conclusion and recommendation
- communicating and disseminating of reports

Unit 11: Preparation of Report

4 Hours

- Meaning, objective and importance of research report
- Layout of research report
 - preliminaries
 - body of reports
 - references/bibliography
 - appendix
- Difference between Research Report and Research Paper
- Scientific report writing, Manuscript and abstract report writing
- Qualities of good report
- Process of report preparation

Unit 12: Research Ethics and publication

4 Hours

A. Research Ethics

- Basic Concepts on Research Ethics and its Principles – written informed concerned
- provision of research ethics in Nepal-
 - national ethical guideline if health reasearch
 - ERB of NHRC and its function
 - IRB ad its function

B. Publication

- Concept and importance of publication carrier development
- Introduction and types of journal; General, professional and index
- list the index journal published in Nepal and their guideline

Teaching learning methods

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

- Didactic lecture: mainly on the basic concepts, principles and theories
- Presentations and seminars: mainly on the events and issues of debate and diverse opinions

- Self learning: mainly on the issues, where further explanations are desired and materials are easily available for reading.
- field research practical.

Evaluation

Internal assessment in different forms 20%

Final examination 80%

Recommended Books

1. Health Research methodology, WHO
2. Tandan M. and Thapa J., A Text book of Public Health Research Methodology.
3. Fisher, A Laring , J and Stokle, J. "Hand book for family planning Operations Research Design" Population Council, 1991.
4. Kothari CK "Research Methodology", Willey Eastern Limited [Fourth reprint 1989.]
5. Gyawali K and RegmiB, Health research methodology, 2012
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" EL. BS. 1979.
8. Pradhan. HB. " A Textbook of Health" Educational Resources for Health [Second ed] Kathmandu. 1996.
9. Stpehen I. and Michael WB. Hand book in research and evaluation" Edits Publishers. San publishers, San. Diego. California seventh print 1976.

Course Title	Urban Health, Public Health Engineering and Disaster Management	
Four Year	Seventh Semester	Course code: BPH 407.2-UHPHEDM
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Description

An education aspect of Urban Health, Public Health Engineering and Disaster Management program is indispensable responsibility of health Professional specifically of development aspects of health. The graduates need to have a clear concept of urban planning, environment, its engineering system and disaster and emergency management.

Learning Objectives

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

- urban health, healthy city and component of urban health
- science and engineering aspects of landfill, biological treatment and thermal treatment options; the meaning of disaster, its management and health effects
- public health perspective of construction of city, its healthy behaviour and mitigation strategy of disaster and response in emergency

Course content

Unit 1: Urban health 16 Hours

Urbanization

- o Concept, definition and scope of urban environment - 1 hr
- o Process of urbanization - 1 hr
- o Global urbanization: trends, patterns, determinants, indicators of good urban environment and impacts - 2 hr
- o Urbanization in context of Nepal, interexchange of urban resources - 1 hr
- o The urban environment and health in developing countries and in Nepal –1 hr
- o Urban social environment and characteristic of socio health environment – 1 hr

o Green revolution in urban context and its importance

Measures of Urbanization - 2 hr

- o Terminologies of urbanization
- o Measures of urbanization
 - 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
- Tempo of urbanization

- Factors affecting Urbanization - 1 hr
- Urban health issues - 5 hrs
- o Determinants and burden of urban ill
 - o Urbanization and the epidemiology of infectious diseases
 - o Urban social disease (violence, different types of crime, prostitution, drug abuse, psychological disorder, RTA)
 - o Urban primary health care and health system in Nepal
 - Concept, objective, activities and significance urban health clinic
 - o Disease management system in municipality
 - o Concept of mobile toilet, scope and importance
 - o Municipalization and urban health : tendencies in the mega city, lessons learned, and challenges

Unit 2: Public health engineering

16 Hours

- Introduction - 3hrs
- o Concept, scope, use of public health engineering, its application Nepalese engineering construction and development
 - o Public health importance and its critiques of intervention in engineering system
 - o Major public health engineering construction in Nepal
 - o Merits and demerits of public health point view of engineering,
- Management engineering of sanitary disposal system 3 hrs
- o Concept, definition, public health importance, types of toilet (classical and modern) and its description, toilet construction system in mass people displacement, importance of biogas engineering, its type and promotion of public health in rural setting
- Water Engineering 3 hrs
- o Network design and distribution of water supply system, treatment operation and management, issues of social equity in water supply in mega city of Nepal, Public health aspects of water engineering of water and sanitation division.
- Public health aspects of house engineering 2 hrs
- o Criteria of hygienic house, ventilation engineering, code of house building,
 - o Merits of house engineering and its significance in disaster
- Waste management engineering 5 hrs
- o The current generation rates for major waste streams, collection and potential recycling options.
 - o Solid waste engineering options

- Landfill – concept, site selection criteria, design and operation
- Biological treatment - composting and anaerobic digestion, design and operation
- Thermal treatment - combustion, pyrolysis and gasification, design and operation
- Emission control - flue gas cleaning systems, odour control, leachate management and bioaerosol control

Unit 3: Disasters Management

16 Hours

Introduction;

3 hrs

- o Meaning of disaster and disaster management
- o Distinguishing between an public health in emergency and a disaster situation o
- Types of natural and non-natural disasters
- o Impacts and Implications of disasters on your region and environment

Disaster Management Cycle

o Mitigation,

3 hrs

- Disaster Mitigation
- Mitigation strategies
- Hazard identification and vulnerability analysis
- Disaster and Development
- The impact of disasters on development programmes
- Vulnerabilities caused by development

o Preparedness,

3 hrs

- Disaster Preparedness and planning, Element of preparedness, disaster forecasting
- Overview of Disaster Risk Reduction (DRR) process

o Response and recovery

3 hrs

- Disaster Response
- Aims of disaster response
- Disaster Response Activities in Nepalese context
- Modern and traditional responses to disasters
- Disaster Recovery and plan
- Critiques on Disasters as opportunities for development initiatives
- Disaster management mechanism of Nepal from peripheral to central, Overview activities of disaster management activities of different organization of Nepal

Disaster Associated Health Issues – Emergency Health Services and Diseases - 4 rs

o Introduction

o Emergency Health Services in Disasters

- o Infrastructure and procedures in accessing emergency situations
- o Common Communicable diseases in disaster situations
- o Risk factors contributing to the spread of communicable diseases and outbreaks
- o Preventing and reducing outbreaks of communicable disease in emergency/disaster settings
- o Rapid Assessment
- o Importance Health Education in risk reduction of disaster

Teaching learning methods

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References

1. K. Park, Preventive and social medicine, latest edition
2. Disaster management guideline, MOHP
3. Disaster management guideline, EDCCD, MOHP
4. Disaster operational and response manual
5. Guidance Note 2011 for Preparing Disaster Preparedness & Response Plan
6. Building development code, MPPC
7. Urban health policy, MOHP
8. Waste management committee, MOLD
9. Plan, policy, and guideline of municipality
10. Public health guide in emergencies
11. Nepal Health Sector Programme Implementation Plan II (NHSP IP2) 2010-2015
12. Annual DDR report
13. Waste management guideline, WHO

Course Title	Logistic Management and Software Application	
Four Year	Seventh Semester	Course code: BPH 407.3-LMSA
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Description

This course provides students with an overview of the ever-changing profession of procurement and supply chain management. It will also address the major trends and influences in the discipline of procurement and supply chain management. This course covers the entire procurement and supply chain process. This course provides the fundamental principles and practices of government procurement. The course covers all aspects of logistics management, from theories to strategies and operational guidelines.

Learning objectives

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

- Understanding of procurement and supply chain management
- Define and relate the terminologies in procurement and supply chain management
- Link procurement and supply chain functions to other organizational functions
- Explain and link the stages in the procurement and supply chain processes
- Discuss the contract management process
- Identify the various procurement records
- Discuss the various approaches to sourcing and management of suppliers
- Describe the procurement risk management processes
- Use the different kinds of software in computer

Course Contents

Unit 1: Introduction to logistics management

4 Hours

- Evolution of logistics management: **Conceptual Background**
- Define logistics and logistic management
- Importance of logistics
- Logistics management cycle and functions
- Logistic Management Division
 - Introduction, objective, strategies of Logistic Management Division
 - Indicators of LM
 - Constraints and issues of LM: (**Strenght, Weakness**)
 - Concept, objectives and application of Logistics management information system (LMIS)

Unit 2: Procurement, Inventory and Supply chain Management

6 Hours

- Procurement
 - Concept, definition, objectives and types of procurement.
 - Principle of procurement
 - The scope of procurement and supply chain management

- Definition and importance of Quotation
- Introduction to public procurement
 - The scope and nature of public sector
 - Meaning of public procurement
 - Differences between public and private procurement
 - The goals of government and procurement objectives
- Procurement and process
 - Procurement planning
 - Solicitation
 - Evaluation,
 - Contracting and contract management

Public procurement methods

- Selection of procurement method
- Open and restricted methods
- RFQ/RFP
- Micro procurement
- Direct Procurement, community purchase

Unit 3:Inventory Management Supply Chains

6 Hours

- Inventory Management Supply Chains
 - Definition of Inventory, Vendor, or supplier
 - Principles of inventory management
 - Inventory flows and supply chains
 - Planning and forecasting
- Warehousing and inventory management
 - Principles of stores and warehouse management
 - Store management process- ASL, EOP, LIFO and FIFO
- Tender or Bidding
 - Concept, types and process of budding
 - Current process of bidding, constraints, and issues
 - New approach of bidding: E-bidding (logistic)
 - Importance, merits and demerits of e-procurement
 - Types and forms of e-procurement
- Overview of contract law

Unit 4: Documentation**2 Hours**

- Definition, types and importance of documentation and record in LM
- Registration and reference number and their importance
- Dispatching process and its importance
- Principles of producing documentation

Unit 5: Computer Software Application**24 Hours**

- Introduction about software and its application in public health
- Various kinds of Statistical Software used in Computer
- Use of SPSS in Computer
- Use of Epi-data in Computer
- Use of end note
- Use of different referencing style

Unit 6: Informatics**6 Hours**

- Understanding the health informatics, definition, scope, uses and importance
- Bioinformatics- Introduction, types and application
- Medical terminologies, nomenclatures, coding and classification system
- Telemedicine: introduction, scope, uses, application, importance to provide health service in rural Nepal, case study of telemedicine in Nepal and its merits and demerits, role of telemedicine in PHC
- GIS and GPS- Introduction, application on public health and difference between them, Uses of them in disaster management

Teaching learning methods

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

Evaluation

Internal assessment in different forms 20%

Final examination 80%

References

1. DoHS. Annual report. Depart of Health services, recent edition.
2. SPSS training manual
3. www.lmd.gov.np

Course Title	Public Health Ethics, Social Health and Professionalism
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Four Year	Seventh Semester	Course code: BPH 407.4-PHESHP
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course description

This subject is keeping aim to make able about social health, its component, important in society and health to the students. Attention will be given to current health problems and issue dealing with consumerism. The course will involve student establishing concepts of self-protection in sales promotion of health products and services. All the social conflict could be negotiate though the justice and its value to make social justice in community. In order to do this well, healthcare professionals need good technical as well as proper ethical education: ethical education to enable them to deal with the problems of their patients and of their community more effectively.

Learning Objectives

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

- Explain the meaning purpose and importance of ethics in public health sciences.
- Define and conceptualize basic principle of ethics
- Intervention of ethical behaviour in professional development
- Describe the fundamental concept involved in the public health service.
- Develop public health professionalism in individual for development of public health
- Identify the major factors influencing health care.
- Identify resources for protection of the consumer.
- Discuss and make decisions regarding the utilization of health care services.
- They know about social justice and its important to maintain health society
- They could know about the component of health justice and its relation with consumer health

Course Contents

Unit 1: Public Health Ethics

13 Hours

- **Introduction**
 - Concept of public health ethics, and its importance in public health professional practice,
 - Difference between public health ethics, rules, regulation and laws,
 - Brief overview of history of public health ethics in Nepal
- **Terminology used in public health ethics**
 - Defining the Good, Virtue Ethics, Situation Ethics, Care Ethics
 - Moral Worth, types of moral worth
 - Paternalism, Plagiarism, Patent Right, Autonomy, Competence and Decisional Capacity, Truth-Telling , Pluralism and HealthCare Professionals

- **Considerations of ethics in public health practice**
- **Patients (beneficiaries) Society and Public health Professionals ethics**
 - Health service/care professionals as their patients' or beneficiaries' friends
 - Health service equalities in cultural and linguistic differences
 - Confidentiality
 - Conflicts of interest
 - Consent
 - Public health professionals as citizens
 - Public health professionals and their professional lives
- **Community social ethics**
 - Ethical justice and citizen's rights to public health service
 - Ethical role of the community
 - Communication ethics, respect ethics, language ethics, cultural cues ethics
 - Code of conduct of public health professional
 - Individual liberty and community benefit,
 - Use of ethical evidence
 - The ethics of resource allocation in community for public health services

Unit 2: Public health Professionalism

16 Hours

- **Concept, definition, and scope of public health professional development and professionalism**
- **Core function and competencies of public health professionals in relation to professional development**
 - Listening Skills
 - Time Management
 - Personal Productivity
 - Making Effective Decisions
 - Conducting Effective Meetings
 - Leadership and role model
 - Inter Personal Relationship (IPR)
 - Resolving Conflict
 - Responding and Feedback delivery
 - Monitoring organizational Image
 - Considering customer Satisfaction
 - Aligning Technology with Organizational Strategy
 - Communication and interpersonal development
 - Media mobilization and utilization
 - Attachment, registration with professional organization (NHPC, NePHA other professional organization)

Unit 3: Consumer (beneficiary) health

12 Hours

- Meaning of consumer (beneficiaries), concept of consumer health and consumer right
- Element of consumer health and right

- **Major consumer (beneficiary) health issues in Nepal**
 - Service related issues
 - Misleading information about public health and its services
 - Issues in healthy and unhealthy products
 - Issues in accessible public health services
 - Issues with investment, costs and access to public health services

 - Health related issues
 - Health and disease related issues
 - Hygiene and sanitation
 - Vulnerability and hazards
 - Quality services and products and their effect on health of the public and public health services

 - Consumer (beneficiary) behaviour issues
 - Need for consumers health protection
 - Intelligent consumer behaviour
 - Healthy and unhealthy behaviours
 - Psychological manipulation of consumer' behaviours affecting their health

- **Consumer (beneficiary) protection in Nepal**
 - Quality control of public health service, quality of public health service related commodities including drug, misleading impact of services on consumers
 - Overview of consumer protection laws of Nepal and its implication
 - Quality assurance unit of DoHS
 - Other government agency for controlling mechanism of quality goods in the context of consumers' health (Roles and responsibility of Department of Commerce, Department of Quality Assurance)
 - Industry's Self-Regulation related to health of the consumers

Unit 4: Social health justice

7 Hours

- **Introduction**
 - Concept, definition, and scope of social health justice and its important in public health service delivery for mitigating injustice in health service delivery

- Public health law: Nature, implementation strategies and challenges
- Differences between public health law, fundamental health right, human right and justice in health
- Critiques of Justice in health as one of the mechanisms of maintaining social harmony for improving the health of the public and decrease health inequity as a result of conflict
- Component of justice in health
 - Health equity and equality; Fairness, Inclusion, Adequate Opportunity and rights in delivery and utilization of public health services
 - Moral actions
 - Equal service treatment as natural law
 - Removing barriers to health justice

Teaching learning methods

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

Evaluation

Internal assessment in different forms 20%

Final examination 80%

Reference

1. Erich Textbook of Healthcare Ethics; University of California, Davis, School of Medicine, Sacramento, California
2. Macleod J. "Davidson's principles and practice of medicine". ELBS.
3. Regmi B, Public health ethics, social health and professionalism
4. WHO guideline of medical ethics
5. Code conduct of NHPC
6. Ethical Guideline, Nepal Health Research Council