

Purbanchal University
Faculty of Medical and Allied Health Sciences
Bachelor of Public Health (BPH) Program

1. Introduction

From the prospective of health, people can be divided into two categories: one, who are currently staying healthy and wish to stay healthy forever and lead a productive lives without being sick and diseased; another, who are currently unhealthy with sickness or diseased and who wish to get rid of sickness and disease to restore health. The task of the nation is to help people of these two categories fulfill their respective wishes. Societies create two kinds of services to cater the wishes, namely public health services to help healthy people to stay healthy, and medical care services to help unhealthy people to get rid of sickness and disease. In a country both of these services are equally important. There are many strategies and innovations have been emerged, including life style changes, biological and chemical and environmental improvement measures that help promote and protect health and prevent and control diseases. Public health system has challenges of translating into action these measures. Despite of people's wish to stay healthy due to natural and man-made factors people are getting sick or diseased several times in their life span. Therefore medical care system has challenges to meet the medical and surgical treatment of the sicknesses and diseases. Among these two fractions of challenges it is the responsibility of public health practitioners and professional to meet the first challenge i.e. helping people to stay healthy through promoting health, preventing health risk factors and diseases, protecting health, controlling epidemics and encouraging suspected people for early detection, treatment and compliance to treatment.

In current time all the countries including developing, transitional, or industrialized are facing different combinations of epidemiologic, demographic, economic and health systems challenges. Despite of huge revolution and innovations in health sector, health of the people is increasingly challenged. There is a growing need for lifestyle changes, burden of diseases including communicable, non-communicable, reemerging diseases. In addition there is growing challenges of micronutrient deficiencies and chronic diseases. Therefore, key players

in health sector including policy makers need to open their eyes and invest their efforts in public health including development of *pakka* (genuine) public health professionals. Such a *pakka* public health professionals/ practitioners can effectively deal with health of healthy people and help to maintain the healthy status of the people by promoting health, preventing risk factor, disease/illness and injury, protecting health and immune system, control risk factors and epidemics -infections and in case of presence of sign and symptoms, public health professionals encourage people for early diagnosis and compliance to treatment and follow up.

Realizing the dire need of the health professionals in public health sectors Purbanchal University has long been initiating Bachelor Program of Public Health (BPH) since 2002 with the aim to prepare professional public health specialties with the highest technical and managerial competencies to work at various levels (Rural, Urban, National and International and Local, Provincial and Federal level 5 Public health programs include functions including problem identification, planning, implementation and evaluation. Public health education programs were running guided by a curriculum focused on developing skills on these functions. While the change is inevitable with advancing time Purbanchal University revised 3 years BPH curriculum into 4 years semester academic course from the year 2012, as an innovative step in producing qualified graduates in health sectors. The new four years/8 semesters curriculum of 2012 has incorporated various new subjects along with the corresponding practical subjects (Practical Skill Development - PSD) which had emphasized on student's practical skill necessary to deliver quality health services.

While viewing the currently using curriculum of 2012, some of the theoretical as well as practical subjects are need to be update and specified appropriately to fulfill the changing concept and scope of public health demands. Therefore, there is an utmost importance to prepare a revised curriculum.

2. Rationale for Curriculum Revision

The current curriculum of Bachelor of Public Health (BPH) was revised in 2012 in line with the Purbanchal University's policy of extending the duration of the program from three academic years to four years. Since

then, the political system of the country has shifted from unitary to federal system, the health, morbidity, mortality and their determinants have been changed and overall the concept, roles and responsibilities of the mid-level public health workforce also have been changed. To suit these changes the current curriculum of BPH 2076 has been developed as revised curriculum. The following are the specific reasons for developing the revised curriculum:

2.1 Several courses which are required practical examples from Nepalese health and medical service systems are from pre-federal service systems. Now, with the adoption of federalism along with organizational structure, arrangement of human resources, and the type of health and medical services expected to be provided by the central to local level administration units have been changed. There are six to seven current courses which are directly affected by these structural changes. Therefore, the BPH curriculum is also need to be changed to tally with the changing system.

2.2 The concept of public health as a discipline and as a practice has been changed. The current courses do not reflect these changes. The BPH candidates need to update the changing concept during their study period so that they could apply the concept during their practice level. For this purpose the current courses need to be reviewed and changes.

2.3 There are many theoretical topics included in the current courses which are beyond the scope of the mid-level public health practitioners whereas there are several more needed and practical skills which the students are required to develop during their study. Therefore, to adjust such discrepancies also the curriculum need to be revised.

2.4 Most of the current three credit courses are accompanied by one credit of practical skill development (PSD) course. Some courses require PSD and other do not need. To adjust this situation there need for curriculum revision

2.4 The current semester wise offering of the courses is not sequential. The level of cognitive and practical skills to be developed is not in order. Therefore, to adjust the sequence of offering the courses also review and changes in the curriculum is needed.

3. Course Structure and Sequence

This BPH course has been designed for four academic years with eight semesters concentrating on 41 theory courses and 27 practical courses. Each theory courses carry 3 credits (48 teaching hours) except anatomy and physiology which consist of 4 credits (64 hours), where as practical courses carry one credit (32 hours). However 'Community Health Diagnosis and Intervention Field Practicum' carry six credits (192 hours), 'Comprehensive Public Health Management Field Practicum' carry five credits (160 hours) and 'Public Health Research Practicum' carry six credits (192 hours). In total, the revised BPH course consists of 124 credits hours for theory and 41 credits hours for practical. The sum of theory and practical is 165 credits hours. Practical courses are designed in the following four approaches:

1. Laboratory based practice
2. Field based (reality exposure) practice
3. Field psycho-motor practice (intervention)
4. Cognitive skill practice (term paper writing, research proposal writhing, project development, review articles, writing etc.)

The 41 theory- based and 27 practical-based courses are arranged sequentially by categories of courses to be offered in successive year/semester.

SN	Semester/s	Course category
1	First year: Semester 1 and 2	Basic health science courses
2	Second year: Semester 3 and 4	Basic public health science courses
3	Second year: Semester 4 and Third year: semester 5	Public health methodology courses
4	Third year: Semester 5 and 6	Public health intervention courses
5	Fourth year: Semester 7 and 8	Public health management courses

4. Purpose of the Program

The BPH program aims to prepare professional public health practitioners with the highest technical and managerial competence to work in various

level (Rural, Urban, National and International and Local, Provincial and Federal level³ in various aspects of public health such as public health programs including problem identification, planning, implementation and evaluation. Such practitioners can serve as a public health officer, public health specialist like public health educator, environmental health officer, public health epidemiologist, public health manager, public health officer at different settings (school/college/university, home, city/village/community, work place, recreational setting, and sport setting), an entrepreneur in public health sector and public health researcher. Besides these, the BPH graduates can serve various job requirements of government and nongovernmental organizations in different settings.

5. Objectives of the program

The objective of bachelor of public health (BPH) program is to produce competent graduates with advanced knowledge and practical skill necessary to deliver high quality health services needed for the country. Specifically, the program entails the following objectives;

- Impart the knowledge and skills in applied public health sciences, laboratory works on applied health actions.
- Develop required skill in designing, analyzing and evaluating applied public health science research and program management.
- Equip public health specialists with communication and group organization skill for promoting community participation in health and development activities ultimately leading to the individual and community self-reliance in health service and improvement in health status of people.
- Enable public health professionals to deal with existing realities in public health management issues, concern and problems.
- Foster positive attitudes in health professionals and encourage them to provide more accessible and equitable primary health care services for disadvantaged groups and communities.
- Enhance vocational competence of public health professionals through advanced education in health strategies health promotion and health programming.

- Enhance the knowledge and practical skills in dealing with human resource development and existing issues in public health management.
- Develop the research and scientific writing skills through the introduction of research methods term paper and thesis.

6. Expected competencies of the Public Health Graduates

At the end of completing the BPH course the following competencies are expected:

- Determine existing community health problems by use of epidemiological investigation and prioritize the problems and develop community health interventions.
- Develop and implement public health intervention for promoting health; preventing health risk factor, injuries and diseases; protecting health through immune system; controlling spread of health risk factors and diseases; and encouraging early detection, treatment and compliance to treatment (P3CE).
- Apply problem-solving and community participation approach in planning, managing and evaluating programs designed to deal with priority public health problems in appropriate ways to achieve optimum impact from public health programs.
- Perform supervision, monitoring and evaluation of public health interventions.
- Assess the risk factors of communicable and non-communicable disease or health problems and able to make risk factor prevention strategies and interventions
- Analyze health education need, do health education program plan and implement with appropriate monitoring system in different setting such as family, community, school, work place, factories, health institutions etc.
- Design and execute public health research activities such as developing tools, collecting data, analyzing the information and write the scientific report.
- Assess the possible areas for entrepreneurship, develop entrepreneurship project and initiate the implementation of it.
- Identify human resources training need, plan and execute HR training in different issue of public health.

7. Career Opportunity

There is growing concern for improvement of health status of the people from all stakeholders within Nepal or in the foreign countries. Provision of equitable access and universal coverage of basic health services for attainment of an optimum level of health and better quality of life of the people by creating more equitable distribution of resources is the dominant concern of Nepal today. In many parts of the world health professionals are investing themselves in introducing public health interventions that can help improve and level up the health status. However, Nepal is facing three fold problems: burdens of diseases, life style, and poverty. In order to cope with this complex situation, development of public health graduates has become inescapable. In general, a Bachelor in Public Health (BPH) graduates can choose following areas to build their career:

- University (Education/Research)
- College/Academic Institutions
- Health Organizations (Public/NGO/INGO/Private)
- Health Related Consultancy Agencies
- Research Organizations/ Institutions
- Hospital (Research Unit)
- Self-entrepreneurship etc.

8. Entry Requirement for New Students

The entry requirement for a new student in BPH will be Intermediate in Science (I. Sc.) or Higher Secondary Level (10+2 Science streams in biology stream) or Certificate in Health Sciences (PCL General Medicine, PCL Lab Technology, PCL in Dental Hygiene, PCL in Radiography etc.) as recognized by Purbanchal University with at least 50% marks or equivalent grade score. Besides the basic academic requirement, an entrance examination will be held for all applicants.

9. Duration of Study

Duration for the completion of all the requirements for the BPH program as a full-time student is 4 Years (8 Semesters) and maximum duration for the completion of all the requirements for the BPH program are as follows:

- Normal Duration: 4 Years (8 Semesters)
- Maximum Duration: 8 Years

10. Academic Schedule

An academic year of the University consists of two semesters of 16 weeks (96 teaching days) of each. The fall semester generally starts in September (September-February) and the spring semester generally starts in March (March-August). In BPH level, fresh admissions are made at the beginning of the fall semester.

11. Admission Policies

- Intake of students should be annual
- The maximum number for intake of students is according to University rules
- The selection of the student should be in merit basis

12. Admission procedure

- A notice inviting application for admission will be publicly announced by Purbanchal University.
- The application forms are available in respective colleges, after the payment of the prescribed University fee.
- The eligible candidates are publically informed to take the entrance examination and entrance examination is conducted directly by Purbanchal University.
- The candidates shall be admitted on merit basis only according to their performance in the entrance examination. The college may also interview the candidates for final selection for admission.

13. Course Registration

Student must be registered in University in first semester. University will provide the individual registration number at the beginning of first semester.

15. Teacher Student Ratio

To carry out the teaching and learning activities of this curriculum the teacher student ratio should meet the minimum criteria set by University.

16. Teaching and Learning Setting

The teaching and learning setting in college should follow and meet the minimum requirement for the recognition of Bachelor in Public Health endorsed by University. There must be required teaching and learning equipment, articles laboratories and space to facilitate student's learning.

17. Teaching and Learning Methods

A number of effective and participatory teaching and learning methods will be employed to facilitate innovative learning [acquisition of knowledge, skills and attitude]. The choice of the methods largely depends on the nature of the subject matter and the situation nevertheless the following methods will be emphasized and adopted.

- Lectures using multimedia and white boards
- Learning process through Groups discussion, interaction, brain storming, observation
- Writing assignment
- Field study, analysis and group presentation
- Conduction of seminar
- Student participatory based teaching
- Laboratory and field based learning

19. Medium for Teaching and Examination

The medium of instruction and examination of BPH Program is English language.

20. Attendance Requirements

A student must attend every scheduled lecture, tutorial, field visit, practical classes and any curricular activities. However, to accommodate for late registration, sickness and other contingencies, the attendance requirements will be a minimum of 80% of the classes actually held.

21. Evaluation

There will be final written (theory) and practical examination at the end of each consecutive semester. The theoretical written examination (Externally by the Office of the Controller of Examinations of Purbanchal University through semester-end examinations) will carry

80% marks and respective college/institutions manage internal written examination of 20% marks of each subject. To pass the university examination, each student must acquire 50% marks in theory examination and 60% for practical examination. The practical (Laboratory based, Viva and oral defense) examination will be held in each practical subject. A student is required to pass the internal and external examinations independently.

A. Evaluation criteria for final (university) and internal theory examination

1. Internal assessment - equivalent to 20 %
2. Final University examination - equivalent to 80 %

Evaluation tool structure for theory (questions structure)

1. Group A - Multiple Choice Questions (MCQs) $1 \times 20 = 20$ marks
2. Group B - Problem Based Question (PBQ) $1 \times 15 = 15$ marks:
Problem based question is to be prepared with a problem situation related to subject matter and instruct the student to answer three or five sub-questions based on the given problem.
3. Group C - Long Answer Questions (Any two) $10 \times 2 = 20$ marks:
Three questions are given and instruct to attempt any two.
4. Group D - Short Answer Questions (Any five) $5 \times 5 = 25$ marks:
Six questions are given and instruct to attempt any five.

B. Evaluation criteria for final (university) practical examination

For practical evaluation criteria has been mentioned in each subject separately. The evaluation sheets, procedures/tools need to be developed appropriately for practical examination. For final practical examination, University nominate the external examiners and the external examiners visit concerned college/institutions for evaluation.

Note: Practical examination marks distribution for some particular

practical are distributed as the following criteria (out of 100%):

1. For “Community Health Diagnosis and Intervention” (6th Semester) subject the following evaluation criteria are prescribed.

SN	Description	Weight age
1.	Student’s attendance/discipline/team work	10%
2.	Pre field work (tools development and pretesting)	5%
3.	Data collected forms (hard copy) and entry file (soft copy)	5%
4.	Data analysis and first draft report preparation	10%
5.	Findings sharing (Community presentation) to community people	5%
6.	Comprehensive public health intervention planning, implementation and evaluation	10%
7.	Final Community Health Diagnosis presentation among major stakeholders (Rural/Municipality)	5%
8.	Presentation by students at college and individual oral defense – viva (external examiner)	30%
9.	Community health diagnosis field report and log book (external and internal examiner)	20 %
	Total	100%

2. For “Comprehensive Public Health Management Field Practicum (7th Semester) subject the following criteria are prescribed.

SN	Description	Weight age
1.	Student’s attendance and team work, preparation of action plan	5%
2.	Public health and medical services system analysis using IPO Model	5%
3.	Trend analysis using three year data from HMIS	5%
4.	Epidemiological study of any one non/communicable disease	5%

5.	Critical appraisal of public health program (any one) using SWOT	5%
6.	Implanting MAP	10%
7	Prioritization and development of five year plan using LFA	10%
8.	Presentation among major stakeholders at field setting	5%
9.	College presentation, individual oral defense (external examiner)	30%
10.	Health service management profile report (external examiner)	20%
	Total	100%

3. For “Public Health Research Practicum” (8th Semester) subject the following criteria are prescribed.

SN	Description	Weight age
1	Review and final submission of research proposal	5%
2	Data collected forms (hard copy) and entry file (software copy)	10%
3	Data analysis and first draft report submission	10%
4	Findings presentation at department (internal pre-defense)	15%
5	Oral defense examination (external)	30%
6	Final research report submission - at least three hard copy along with soft copy (evaluation by external and internal)	30%
	Total	100%

22. Grading System

The letter grade awarded to a student in a subject is based on his/her consolidated performance in internal and final examinations. The letter grade in any particular subject is an indication of a student's relative performance in that course. The pattern of grading is as follows:

LETTER GRADING SYSTEM			
EQUIVALENT MARKS %	LETTER GRADES	GRADE VALUE	REMARKS
90 and Above	A+	4.00	
80 and Below 90	A	3.75	
70 and Below 80	B+	3.50	
60 and Below 70	B	3.00	
50 and Below 60	C	2.50	
40 and Below 50	D	1.75	
Below 40	F	0.00	Fail
Not Qualified (NQ)/Absent	I	-	Incomplete

CGPA (Cumulative Grade Point Average) at the end of the degree defines the division which will be one of the followings. The CGPA of student must remain 2.00 or above throughout the duration of studies

CGPA Definition	Division
3.75- to 4.00	First with Excellence
3.50-Below 3.75	First with Distinction
3.00-Below 3.50	First Division
2.50-Below 3.00	Second Division
2.00-Below 2.50	Pass Division

23. Unsatisfactory Results

Students may apply for re-totalling of their grades as per University rules.

24. Degree Requirements

For awarding the degree of Bachelor of Public Health (BPH), the student should have achieved CGPA at least 2.0 or more.

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health Program
Four Year Course Sequence

FIRST YEAR, FIRST SEMESTER: Basic Health Sciences for Public Health Strands

Course Code	Course Title	Nature of Subject		Credit Hour		Teaching Hour		FM	PM
				Th.	Pr.	Th.	Pr.		
BPH 101.1 IPH	Introduction to Public Health	Theory	-	3		48	-	100	50
BPH 101.2 APP	Anatomy, Physiology and Pathophysiology	Theory	-	4		64	-	100	50
BPH 101.3 PHM	Public Health Microbiology	Theory	-	3		48	-	100	50
BPH 101.4 PHB	Public Health Biochemistry	Theory	-	3		48	-	100	50

BPH 101.5 APE	Applied Professional English	Theory	-	3		48	-	100	50
BPH 101.2 APP-LBP	Anatomy, Physiology and Pathophysiology - Laboratory Based Practice	-	Practical	-	1	-	32	50	30
BPH 101.3 PHM-LBP	Public Health Microbiology - Laboratory Based Practice	-	Practical	-	1	-	32	50	30
BPH 101.4 PHB-LBP	Public Health Biochemistry - Laboratory Based Practice	-	Practical	-	1	-	32	50	30
Total				16	3	256	96	650	340

FIRST YEAR, SECOND SEMESTER: Basic Health Sciences Strands

Course Code	Course Title	Nature of Subject		Credit Hour		Teaching Hour		FM	PM
				Th.	Pr.	Th.	Pr.		
BPH 102.1 PHER	Public Health Entomology and Rodentology	Theory	-	3	-	48	-	100	50
BPH 102.2 PHPPT	Public Health Pharmacy, Pharmacology and Toxicology	Theory	-	3	-	48	-	100	50
BPH 102.3 FAS	First Aid and Safety	Theory	-	3	-	48	-	100	50
BPH 102.4 BFN	Basic Foods and Nutrition	Theory	-	3	-	48	-	100	50
BPH 102.5 EEH	Ecosystem and Environmental Health	Theory	-	3	-	48	-	100	50
BPH 102.6 ERFC-D-I	Epidemiology of Risk Factor and Communicable Diseases – I	Theory		3	-	48	-	100	50

BPH 102.1 PHER -L/FBP	Public Health Entomology and Rodentology -Lab/Field Based Practice	-	Prac tical		1	-	32	50	30
BPH 102.2 PHPPT-L/FBP	Public Health Pharmacy, Pharmacology and Toxicology - Lab/Field Based Practice	-	Prac tical		1	-	32	50	30
BPH 102.3 FAS- LBP	First Aid and Safety - Lab Based Practice	-	Prac tical		1	-	32	50	30
BPH 102.5 EEH - L/FBP	Ecosystem and Environmental Health - Laboratory/ Field Based Practice	-	Prac tical		1	-	32	50	30
Total				18	4	288	128	800	420

SECOND YEAR, THIRD SEMESTER: Basic Public Health Sciences Strands

Course Code	Course Title	Nature of Subject		Credit Hour		Teaching Hour		FM	PM
				Th.	Pr.	Th.	Pr.		
BPH 203.1 PHCA	Public Health Core Actions	Theory	-	3	-	48	-	100	50
BPH 203.2 ECD-II	Epidemiology of Communicable Diseases –II	Theory	-	3	-	48	-	100	50
BPH 203.3 FH -I	Family Health –I	Theory	-	3	-	48	-	100	50
BPH 203.4 APHN	Applied Public Health Nutrition	Theory	-	3	-	48	-	100	50
BPH 203.5 EOH	Environmental and Occupational Health	Theory	-	3	-	48	-	100	50
BPH 203.6 DPSFP	Demography, Population Studies and Family Planning	Theory		3	-	48	-	100	50
BPH 203.2 ECD-	Epidemiology of Communicable	-	Prac		1	-	32	50	30

II - CFBP	Diseases –II - Concurrent Field Based Practice		tical						
BPH 203.3 FH-I - CFBP	Family Health –I - Concurrent Field Based Practice	-	Practical		1	-	32	50	30
BPH 203.4 APHN-CFBP	Applied Public Health Nutrition - Concurrent Field Based Practice	-	Practical		1	-	32	50	30
BPH 203.5 EOH - CFBP	Environmental and Occupational Health - Concurrent Field Based Practice	-	Practical		1	-	32	50	30
Total				18	4	28 8	12 8	800	420

SECOND YEAR, FOURTH SEMESTER: Public Health Sciences Strand + Public Health Methodology Strands

Course Code	Course Title	Nature of Subject		Credit Hour		Teaching Hour		FM	PM
				Th.	Pr.	Th.	Pr.		
BPH 204.1 RHG	Reproductive Health and Gender	Theory	-	3	-	48	-	100	50
BPH 204.2 ENCDMH	Epidemiology of Non-communicable Diseases and Mental Health	Theory	-	3	-	48	-	100	50
BPH 204.3 FH-II	Family Health –II	Theory	-	3	-	48	-	100	50
BPH 204.4 PHEM	Public Health Epidemiology Methods	Theory	-	3	-	48	-	100	50
BPH 204.5 SASPPH	Sociology, Anthropology and Social Psychology in Public Health	Theory	-	3	-	48	-	100	50
BPH 204.6 RUIH	Rural, Urban and International Health	Theory		3	-	48	-	100	50

BPH 204.1 RHG -CFBP	Reproductive Health and Gender – Concurrent Field Based Practice	-	Practical	-	1	-	32	50	30
BPH 204.2 ENCDMH - TPP	Epidemiology of Non- communicable Diseases and Mental Health - Term Paper Preparation (TPP)	-	Practical	-	1	-	32	50	30
BPH 204.3 FH-II -CFBP	Family Health –II - Concurrent Field Based Practice	-	Practical	-	1	-	32	50	30
BPH 204.4 PHEM -CFBP	Public Health Epidemiology Method - Concurrent Field Based Practice	-	Practical	-	1	-	32	50	30
Total				18	4	288	128	800	420

THIRD YEAR, FIFTH SEMESTER: Public Health Methods and Intervention Strands

Course Code	Course Title	Nature of Subject		Credit Hour		Teaching Hour		FM	PM
				Th.	Pr.	Th.	Pr.		
BPH 305.1 PHSCA-I	Public Health Statistics and Computer Application -I	Theory	-	3	-	48	-	100	50
BPH 305.2 COPA	Community Organization, Participation and Action	Theory	-	3	-	48	-	100	50
BPH 305.3 PHIEDM	Public Health Infrastructure Engineering and Disaster Management	Theory	-	3	-	48	-	100	50
BPH 305.4 FHE	Fundamentals of Health Education	Theory	-	3	-	48	-	100	50
BPH 305.5 HPSP	Health-Promoting School Program	Theory	-	3	-	48	-	100	50
BPH 305.6 FPHSM	Fundamental of Public Health Service Management	Theory		3	-	48	-	100	50

BPH 305.1 PHSCA-I - LBP	Public Health Statistics and Computer Application –I -Lab Based Practice	-	Pract ical	-	1	-	32	50	30
BPH 305.3 PHIEDM - FBP	Public Health Infrastructure Engineering and Disaster Management - Field Based Practice	-	Pract ical	-	1	-	32	50	30
BPH 305.4 FHE -CBP	Fundamentals of Health Education – Classroom Based Practice	-	Pract ical	-	1	-	32	50	30
BPH 305.5 HPSP-FBP	Health Promoting School Program – Field Based Practice	-	Pract ical	-	1	-	32	50	30
Total				18	4	288	128	800	420

THIRD YEAR, SIXTH SEMESTER: Public Health Intervention and Management Stands

Course Code	Course Title	Nature of Subject		Credit Hour		Teaching Hour		FM	PM
				Th.	Pr.	Th.	Pr.		
BPH 306.1 AHEP	Applied Health Education and Promotion	Theory	-	3	-	48	-	100	50
BPH 306.2 PHMSN	Public Health and Medical Services in Nepal	Theory	-	3	-	48	-	100	50
BPH 306.3 PHPPPN	Public Health Policy, Plan and Program in Nepal	Theory	-	3	-	48	-	100	50
BPH 306.4 CHDI	Community Health Diagnosis and Intervention	Theory	-	3	-	48	-	100	50
BPH 306.1 AHEP- CBP	Applied Health Education and Promotion – Classroom Based Practice	-	Practical	-	1	-	32	50	30
BPH 306.4 CHDI- RFBP	Community Health Diagnosis and Intervention –Residential Field Based Practice	-	Practical	-	6	-	192	100	60
Total				12	7	192	224	550	290

FOURTH YEAR, SEVENTH SEMESTER: Public Health Service management Strands

Course Code	Course Title	Nature of Subject		Credit Hour		Teaching Hour		FM	PM
				Th.	Pr.	Th.	Pr.		
BPH 407.1 PHSCA-II	Public Health Statistics and Computer Application-II	The	-	3	-	48	-	100	50
BPH 407.2 PHR	Public Health Research	The	-	3	-	48	-	100	50
BPH 407.3 HPSME	Health Program Supervision Monitoring and Evaluation	The	-	3	-	48	-	100	50
BPH 407.4 HEF	Health Economics and Financing	The	-	3	-	48	-	100	50
BPH 407. 5 HMISLM	Health Management Information System and Logistic Management	The	-	3	-	48	-	100	50

BPH 407.1 PHSCA-II - LBP	Public Health Statistics and Computer Application-II – Laboratory Based Practice	-	Prac tical	-	1	-	32	50	30
BPH 407.2 PHR - PW	Public Health Research - Proposal Writing	-	Prac tical	-	1	-	32	50	30
BPH 407.6 CPHMFP - RFBP	Comprehensive Public Health Management Field Practicum – Residential Field Based Practice	-	Prac tical	-	5	-	16 0	100	60
Total				15	7	24 0	22 4	700	37 0

FOURTH YEAR, EIGHTH SEMESTER: Public Health Practicum Strands

Course Code	Course Title	Nature of Subject		Credit Hour		Teaching Hour		FM	PM
				Th.	Pr.	Th.	Pr.		
BPH 408.1 ETHR	Education and Training of Human Resource	Theory	-	3	-	48	-	100	50
BPH 408.2 PHPE	Public Health Profession and Entrepreneurship	Theory	-	3	-	48	-	100	50
BPH 408.3 PHPM	Public Health Project Management	Theory	-	3	-	48	-	100	50
BPH 408.1 ETHR -TPC	Education and Training of Human Resource - Training Program Conduction		Practical	-	1		32	50	30
BPH 408.3 PHPM -PW	Public Health Project Management - Proposal Writing	-	Practical	-	1	-	32	50	30

BPH 408.4 PHRP	Public Health Research Practicum	-	Practical	-	6	-	192	100	60
Total				9	8	144	256	500	270

Distribution of Credit and Teaching Hours by Semester

Year	Semester	Theory		Practical		Total credit	Total teaching hours
		Credit	Hours	Credit	Hours		
First	First	16	256	3	96	18	352
	Second	18	288	4	128	22	416
Second	Third	18	288	4	128	22	416
	Fourth	18	288	4	128	22	416
Third	Fifth	18	288	4	128	22	416
	Sixth	12	192	7	224	19	416
Fourth	Seventh	15	240	7	224	22	464
	Eight	9	144	8	256	17	400
41 Courses	Total	124	1984	41	1312	165	3296

First Year

First Semester

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Introduction to Public Health	
First Year	First Semester	Course Code: BPH 101.1 IPH
Credit Hours: 3 Cr (48hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

This course deals with the basic concepts of public health which intends to develop an understanding of concept of public health among the students heading to pursue baccalaureate level education in the field of public health. The course expects that upon graduation the candidates will be able to practice public health profession as middle level managers in government, NGOs, private sector and even think of entrepreneurship in the field of public health. The thrust of the course is conceptualization of pakka (genuine) public health under its three work domains differently from medicine and medical care. Upon completion of the course the candidates are further expected to realize that their primary contribution is to help maintain and improve the health of the healthy people and to encourage unhealthy people to get timely and complete treatment to regain the normal state of health. Course contents cover concept, purpose, features, subject matters, historical development of public health and public health as profession.

3. Course Objectives

By the end of the course, students will be able to:

1. Describe health and disease background to understand concept of public health
2. Elaborate various definitions of public health and differentiate public health from medicine or curative medicine
3. Identify and explain the three domains of public health
4. Describe public health mission, salient features, purposes, functions, work modalities, work process and outcomes

5. List and explain the sequential subject matter of public health: meaning, purposes and application in public health practice
6. Describe public health profession and job opportunity with special reference to Nepal
7. Narrate and appreciate the historical development of public health practice with reference to Nepal

4. Course Contents

Unit 1: Background for understanding public health concern 8 hours

- 1.1 People's aspiration about health and disease
 - a. Health related aspiration: Leading a healthy and productive life in healthy environment without becoming ill or diseased and infirmed
 - b. Disease related aspiration: In case of disease and infirmity, getting cured timely with adequate, appropriate and less costly treatment
- 1.3 Understanding health
 - a. Lay people's meaning of health and explanation of World Health Organization's original and revised definitions of health
 - b. Health (physical, mental and social) focused indicators (different from traditional disease focused indicators)
- 1.4 Understanding disease:
 - a. Laypeople' meaning of sickness/disease and popular definition of disease, natural history of disease and common indicators
- 1.5 Division of population into two categories on the basis of health-disease spectrum:

1. Healthy population (health domain):

- a. Health of the healthy population as the primary concern of public health and need for public health services in a country
- b. Gross characteristics of a healthy person
- c. Basic requirements to stay healthy
 - i. Personal requirements, such as diet, exercises
 - ii. Environmental requirements, such as healthy air, wholesome water
 - iii. Public health service requirements, such as promotive and preventive health services

d. Determinants of health

2. *Unhealthy population (disease domain):*

Disease and infirmity of unhealthy population as the primary concern of medical care and need for medical or curative services (diagnosis, medication, surgery, laser treatment)

Unit 2: Concept of public health

14hours

- 2.1 Distinction between “health of the public” and “public health”
 - a. “Health of the public” as the goal of public health
 - b. “Public health” as service system to attain the goal
- 2.2 Definitions of public health with special attention to the definition given by C.E.A. Winslow and some public health related reputed organizations
- 2.3 Understanding public health as “a science and art of promoting health, preventing health risk factors, injuries and diseases; protecting health; controlling epidemics; and encouraging suspected and sick people for early detection, treatment and compliance through various interventions
- 2.4 Highlights of the three work domains of public health as depicted from the various definitions of public health:
 1. ***Thematic domain of public health*** (meaning, components, purposes)
(Such as: Non-clinical medicine aspects of nutrition, bodymovement environmental health, reproductive health, child health, family planning, occupational health, communicable and non-communicable diseases, immunization, health risk behaviors, etc)
 2. ***Public health core actions domain*** (meaning, components, purposes)
 - (a) Promotive health actions, (b) Preventive action (prevention of health risk factors, injuries and disease) (c) Protective health actions (d) Control of epidemics actions (e) Encouragement actions for early detection, treatment and compliance to treatment (**P3CE**)

(Details of the five core actions of public health will be taught in the course titled “Public Health Core Actions”

3. **Public health intervention domain** (meaning, components, purposes)
Such as a) Health education intervention, b) Health promotion intervention, c) Public health Policy and regulatory intervention, d) Community organization, participation and action intervention, e) Public health Infrastructural development and managerial interventions

2.5 Distinction between public health and medicine in terms of:

- a. Target population, services to be delivered, expected service outcomes, service providers and their functions, and professional preparation
- b. Clarification of some inappropriately used the term “health” to denote medicine such as health for disease and medicine; health care for medical care; health facility for medical facility like hospitals and medical clinics; health care providers for medical care providers; health insurance for medical insurance; health service (care) costs/financing for medical care costs/financing:
- b. Rationale for clarifying the differences between these misleading terms fro the perspective of public health and its practitioners

2.6 Distinction between public health and public health-synonymous concepts such as community health, preventive health,

2.7 Distinction between public health and medicine-oriented concepts such as community medicine, preventive medicine, socialized medicine

Unit 3: Highlight of sequential subject matter of public health study: meaning, purposes and application in public health practice

3hours

- 3.1 **First level:** Basic public health sciences (thematic domain) such as public health microbiology, public health bio-chemistry, anatomy-physiology, public health entomology and rodentology, public health toxicology

- 3.2 **Second level:** Basic public health thematic sciences such as public health nutrition, environmental health, reproductive health, diseases
- 3.3 **Third level:** Public health methodology such as public health epidemiological technique, demography, public health research, public health information system, public health anthropology, public health sociology, social psychology (public health behavioral sciences), and public health statistics)
- 3.4 **Fourth level:** Public health intervention approaches (core action and intervention domains) such as P3CE, public health education, health promotion, public health policy, law, acts, infrastructure, community organization, and management
- 3.5 **Fifth level:** Public health service management including information based-decision making such as public health planning, public health organization, public health human resources, public health financing/economics, public health insurance (not medical insurance) etc.
- 3.6 Need for developing knowledge and skills on these various levels of subject matters (Unit 3.1 to 3.5) among public health practitioners and highlights on provision for learning the knowledge and skills in Bachelor of Public Health courses

**Unit 4: Highlights of historical development of public health practice
6 hours**

- 4.1 Distinction between history of public health and history of medicine
- 4.2 Tracing the history of public health within the framework of the three domains of public health (**Ref: Unit 2, 2.3**) in various historical periods with particular reference to Nepal,
- Ancient period
 - Medieval period
 - Modern period
 - Recent development including global public health initiatives-

Unit 5: Public health mission, salient features, purposes, and core functions – 4 hours.

- 5.1 Mission
- 5.2 Salient features

5.3 Purposes

5.4 Core functions

**Unit 6: Public health working modalities, process and outcomes
7 hours.**

6.1 Working modality

a. Whole population approach

- Not targeting a specific section of the population:
Campaign, mass media

b. Setting population approach

- Targeting specific population at specific setting:
family, neighborhood, school, business offices, open
markets, factories, entertainment centers

6.2 Highlights of common process of public health work
(intervention): a. Entry into community (general or specific
settings); b. organizing community; c. need assessment; d.
program planning, e. implementation; f. supervision and;
monitoring, g. evaluation, and h. transfer of best practices

6.3 Public health intervention outcomes:

a. Individual level health outcomes including healthy
individuals and their productive capacity

b. Community level health outcomes including healthy
populations in healthy community environments

c. National level socio-economic and developmental
outcomes

- Preparation of healthy human capital (workforce)

- Increase in per capita income, GNP and GDP

- Saving unwanted national investment on unhealthy
population

- Social development

**Unit 7: Introduction to public health profession and job opportunity
with reference to Nepal 6 hours**

7.1 Public health profession: meaning and scope

7.2 **Pakka** (genuine) public health professionals: Meaning,
criteria, categories, roles and functions

7.3 Highlights of professional preparation of public health
practitioners (under graduate and graduate education)

- 7.4 Highlights of job opportunities for public health practitioners:
- a. Governmental and non-governmental international and national health and non-health organization-based job opportunities
 - b. Opportunities in private sector
 - c. Opportunities for self-employment (entrepreneurship in public health)

3. Teaching-learning activities

Method/Media	
1-7	Interactive lecture, group discussion, individual and group assignment followed by presentation, interactive and participatory methods supported by audiovisual materials and equipment

6. Evaluation Scheme

	<u>Weightage</u>
1. External (University examination)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading Materials

1. Turnock, Bernard J., *Essentials of Public Health*, Sydney: Jones and Bartlett Publishers, 2007.
2. Schneider, M.J. *Introduction to Public Health*. New Delhi: Jones & Bartlett India Pvt. Ltd
3. Detels, Roger, James McEwen, Robert Beaglehole, Heizo Tanaka, *Oxford Textbook of Public Health (4th ed.)* Oxford University Press, Oxford 2004.
4. Park, K. *Park's Textbook of Preventive and Social Medicine*. Jabalpur: Banarasidas Bhanot Publishers, (Recent edition). Various websites on public health
5. Elena Andresen, Erin Defries Bouldin, *Public Health Foundations, concept and practice*, 2010, published by Jossey-Bass, San Francisco, CA
6. Virginia Berridge, Martin Gorsky & Alex Mold; *Public Health in History*, 2011, Open University Press
7. Lloid F. Novick, Glen P. Mays. *Public Health Administration, Principle for population based Management*, AN Aspen Publication, USA 2001.
8. Ramjee Prasad Pathak, Ratna Kumar Giri, *A textbook of public health and primary health care development, First edition, 2007*, Vidyarthi Prakashan (p) Ltd, Kathmandu,
9. Detels, Roger, James McEwen, Walter W. Holland, Gilbert S. Omenn, *Oxford Textbook of Public Health, the Scope of Public Health*, 3rd Edition, volume 1,
10. Detels, Roger, James McEwen, Walter W. Holland, Gilbert S. Omenn, *Oxford Textbook of Public Health, the Method of Public Health*, 3rd Edition, volume 2,
11. Detels, Roger, James McEwen, Walter W. Holland, Gilbert S. Omenn, *Oxford Textbook of Public Health, the Practice of Public Health*, 3rd Edition, volume 3,

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Anatomy, Physiology and Pathophysiology	
First Year	First Semester	Course Code: BPH 101.2 APP
Credit hours: 4Cr (64hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

This course covers the contents of different anatomical positions, structure and functions of cell, tissues, organs and systems and pathological condition in human body system. This course helps students to impart basic knowledge on functions of different systems that gives the clear ideas of normal functioning of body parts to regulate and maintain them for health and well-being of individual.

3. Course Objectives

At the end of the course students will able to:

1. Define basic terminologies used in anatomy and physiology,
2. State name and locate different organs and system in human body,
3. Explain structure of different human organs by diagram and organ models,
4. Describe structural relationship of the organs in human body,
5. Describe the structures and functions of various body systems and measures to regulate and maintain them,
6. Describe the normal physiological actions and ranges in the human body,
7. Differentiate various physiological processes between healthy and unhealthy individual,
8. Describe the disorders and diseases of various body system, basic pathological conditions, terminologies and basic

- pathological changes in the cells, tissues organs and the system of body and identify need for their prevention
9. Describe public health aspects of knowledge on different systems of human body.

4. Course Contents

Unit 1: General Introduction 5 hours

- 1.1 Need for studying basic anatomy and physiology by public health practitioners:
 - a. To distinguish healthy person from sick or diseased
 - b. To understand scientific basis of positive and negative aspects of thematic domains of public health such as nutrition, air, water, diseases, physical movement/exercise in relation to anatomy and physiology of human body.
 - c. To understand scientific basis for public health core actions such as promoting health, preventing diseases protecting health through knowledge of anatomy and physiology of human body systems.
 - d. To provide appropriate first aid care
- 1.2 Definition of different terms used in anatomy (anatomical terminologies: anterior, posterior, superior, inferior, proximal, distal, flexion, extension, and abduction, adduction, palmar, dorsal and ventral).
- 1.3 Body positions (anatomical position, supine, prone and lithotomy)
- 1.4 Human cell (structure, functions).
- 1.5 Tissues (classification, location and functions).
- 1.6 Body fluids (types, composition, distribution and functions) and electrolyte balance.
- 1.7 Homeostasis (positive and negative feedback mechanism).
- 1.8 Description of body cavities, located organs, structure and functions. and body systems
- 1.9 Basic concepts of necrosis, inflammation, thrombosis, embolism, wound healing, shock, oedema, neoplasia.

Unit 2: Musculo-skeletal System 5 hours

- 2.1 Descriptions of different parts of musculo-skeletal system

- 2.2 Bone (introduction, composition, functions and classification with examples)
- 2.3 Divisions of skeletal system (axial and appendicular skeleton)
- 2.4 Joints (Introduction, classification, structure and movements)
- 2.5 Muscles, property, structure and functions of muscles (skeletal, smooth and cardiac)
- 2.6 Mechanism of muscles contraction and relaxation.
- 2.7 Features of a normal musculo-skeletal system and ways to regulate and maintain it
- 2.8 Basic concepts and pathophysiology and their prevention of fractures, arthritis, osteomyelitis, and others.

Unit 3: Digestive System

6 hours

- 3.1 Descriptions of different parts of gastro-intestinal tract
- 3.2 Structure and functions of mouth, pharynx, oesophagus, stomach, small intestine and large intestine
- 3.3 Structure and functions of accessory organs (salivary gland, pancreas, gall bladder and liver)
- 3.4 Concept of mastication, deglutition, defecation, emulsification and peristalsis
- 3.5 Digestion and absorption of carbohydrate, protein and fat
- 3.6 Extra hepatic or biliary system
- 3.7 Features of a normal digestive system and ways to regulate and maintain it:
 - a. Intake of adequate and nutritious foods
 - b. Adequate and appropriate body movements
 - c. Adequate and timely rest and sleep
- 3.8 Basic concepts and pathophysiology and their risk factors and preventive measures of gastritis, peptic ulcer, TB intestine, appendicitis, carcinoma stomach, hepatitis, cirrhosis, cholecystitis and cholelithiasis.

Unit 4: Respiratory System

5 hours

- 4.1 Descriptions of different parts of respiratory system
- 4.2 Structure and functions of respiratory organs (nose, pharynx, larynx, trachea, bronchi, bronchioles, lungs, diaphragm and intercostal muscles)
- 4.3 Normal lung volumes and capacities
- 4.4 Para nasal air sinuses and functions

- 4.5 Mechanism of respiration, gaseous exchange and transport
- 4.6 Mechanism of coughing
- 4.7 Brief discussion about differences in lung volume between healthy individual and individual with changes in the lungs
- 4.8 Features of a normal respiratory system and ways to maintain it
- 4.9 Basic concepts and pathophysiology and their prevention of bronchitis, bronchial asthma, tuberculosis, COPD, Pneumonia, carcinoma lung

Unit 5: Blood and Cardiovascular System **10 hours**

- 5.1 Description of blood and cardiovascular system
- 5.2 Blood: introduction, characteristics, composition, functions and formations.
- 5.3 Blood grouping
- 5.4 Mechanism of coagulation and clotting factors
- 5.5 Common disorders of blood: thrombocytopenia, hemophilia
- 5.6 The Heart: introduction, structure and functions
- 5.7 Blood vessels: locations, major blood vessels and branches, structure, differences between artery vein and capillaries
- 5.8 Blood circulation: pulmonary, systematic & portal circulation
- 5.9 Concept of conductive system, heartbeat, heart rate, pulse rate, cardiac cycle, heart sound, cardiac output, stroke volume
- 5.10 Blood pressure and its regulatory mechanism
- 5.11 ECG (Introduction, Normal Reading and interpretation)
- 5.12 General concept on physiological differences between healthy individual and individual with hypertensive disorder
- 5.13 Features of a normal cardiovascular system and ways to regulate and maintain it.
- 5.14 Basic concepts and pathophysiology and their prevention of rheumatoid carditis, myocardial infarction, hypertension, arteriosclerosis, heart failure, anemia, leukemia, hemophilia, idiopathic thrombocytopenic purpura (ITP), hypersensitive reaction.

Unit 6: Neuro-sensory System **8 hours**

- 6.1 Concept on different parts of nervous system (Central Nervous System, Peripheral Nervous System)
- 6.2 Introduction about neurons and supporting cells.
- 6.3 Structure and functions of brain with their functional areas

- 6.4 Structure and functions of spinal and Cerebro-Spinal fluid
- 6.5 Concept of cranial nerves and their areas of supply
- 6.6 Differences between sympathetic and parasympathetic nervous system
- 6.7 Structure and functions of special sense organs including Eye, Ear, Nose, Tongue and Skin
- 6.8 General concept on meningitis and encephalitis
- 6.9 Features of a normal neuro-sensory system and ways to maintain it
- 6.10 Basic concepts and pathophysiology of meningitis, epilepsy, encephalitis

Unit 7: Lymphatic System **4 hours**

- 7.1 Introduction, components and functions of lymphatic system
- 7.2 Lymph: formation, composition and functions
- 7.3 Lymph nodes: structure, major groups with distribution and functions
- 7.4 Spleen: location, structure and functions
- 7.5 Tonsils: types and functions
- 7.6 General concept on physiological differences between healthy individual and individual with lymphatic abnormalities
- 7.7 General features of a normal lymphatic system and ways to maintain it
- 7.8 Basic concepts and pathophysiology of Lymphomas

Unit 8: Endocrine System **5 hours**

- 8.1 Enumeration of different endocrine glands, their position, secretions, and their functions
- 8.2 Differences between exocrine and endocrine glands
- 8.3 Concept of hormone and its regulation
- 8.4 General concept on physiological differences between healthy individual and individual with endocrine disorder (Diabetes Mellitus and Thyroid Disorder)
- 8.5 General features of a normal endocrine system and ways to maintain it
- 8.6 Basic concepts and pathophysiology of Nodular goiter, Diabetes Mellitus, thyroid and parathyroid disorders, Cushing syndrome etc.

Unit 9: Reproductive System

6 hours

- 9.1 Description of different parts of male and female reproductive system
- 9.2 Structure & functions of male and female genital organs
- 9.3 Physiology of menstruation
- 9.4 Basic concepts of spermatogenesis, oogenesis, ovulation and fertilization
- 9.5 Concept on conception, pregnancy, ectopic pregnancy and abortion
- 9.6 General features of reproductive system and ways to maintain it
- 9.7 Basic concepts and pathophysiology of DUB, abortions, ectopic pregnancy, benign enlarge prostate (BEP), carcinoma cervix, Breast lump.

Unit 10: Urinary System

6 hours

- 10.1 Description of different parts of urinary system
- 10.2 Structure and functions of kidney, ureter, urinary bladder and urethra
- 10.3 Nephron and its parts
- 10.4 Mechanism of urine formation and micturition
- 10.5 Functions of urinary system
- 10.6 General concept on physiological differences between healthy individual and individual with renal failure
- 10.7 General features of a normal urinary system and ways to regulate and maintain it
- 10.8 Basic concepts and pathophysiology and their prevention of renal failure, nephritis, nephrotic syndrome, renal stones, UTI.

Unit 11: Sense Organs

4 hours

- 11.1 Introduction to sense organs (eyes, ears, tongue, nose, skin)
- 11.2 Anatomy and physiology of sense organs
- 11.3 Functions of sense organs
- 11.4 General features of a normal sense organs and ways to regulate and maintain them particularly through safety and hygiene measures
- 11.5 Basic concepts and pathophysiology and their prevention of conjunctivitis, trachoma, retinoblastoma, xerophthalmia, acute otitis media and CSOM

5. Teaching Learning Activities

Unit	Methods/media
1-11	Illustrative lecture, interactive and participatory T/L methods support by anatomical flex chart, audiovisual materials and real objectives/model followed by practical skill development sessions, group and individual assignment, demonstrations etc

6. Evaluation Scheme

Weightage

1. External (University examination)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading materials

1. Waugh A., Grant A.: Ross & Wilson's Anatomy and Physiology in Health and Illness, Latest Edition. Churchill Livingstone, London.
2. Chaurasia: Handbook of Human Anatomy, CBS Publication. Current Edition
3. Guyton AC & Hall JE: Guyton Human Physiology and Mechanisms of Disease, Hartcourt Publishers Limited, 1996.
4. Singh, Dr.C.K: Principles of Anatomy and Physiology (Latest Edition), Highland Publication P. Ltd., Bhotahity, Kathmandu.
5. Singh, Dr.C.K: Basic anatomy and Physiology for Health Science (Latest Edition), Highland Publication P. Ltd., Bhotahity, Kathmandu.
6. Macleod J. "Davidson's principles and practice of medicine". ELBS.

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Public Health Microbiology	
First Year	First Semester	Course Code: BPH 101.3 PHM
Credit Hours: 3Cr (48 hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

The course aims to impart the basic concepts in general microbiology, parasitology, immunology and disease development. The course also aims to develop the basic laboratory skills in identifying and diagnosing the fungal, bacterial, viral and parasites related causal agents, organisms and diseases.

3. Course Objectives

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

1. To provide the basic concepts in public health microbiology, (bacteriology, virology, parasitology, mycology), and immunology and disease processes.
2. Describe the concepts of important microbial diseases in communities (fungal, parasitic, bacterial, viral).
3. Describe the lifecycle of common intestinal and blood parasites, treatment prevention and control of parasitic diseases.
4. Describe concepts of host-parasite relationship, normal flora, opportunistic, nosocomial and pathogenic microorganisms.
5. Describe the basic laboratory concept related to the methods of sterilization and ways of making pathogenic free environment and universal precaution and PEP
6. Understand the mechanism and development of immunity.
7. Describe the immune system, antigen, antibody and their types along with their functions.
8. Describe the selection, collection and transportation, storage and processing of specimens.

4. Course Contents

Unit 1: Introduction of public health microbiology **7 hours**

- 1.1 Definition of microbiology
- 1.2 Importance of knowledge and skill on microbiology for public health practitioners:
 - a. To help maintain healthy status of the people by maintaining the normal flora of microbes in human body
 - b. To understand the microbial phenomena of food and nutrients to promote safe and healthy diet
 - c. To understand the scientific basis of public health actions such as promoting and protecting health, prevention of disease, control of epidemics and early detection
 - d. To have a scientific basis for health education of the public regarding health and diseases
 - e. To understand the microbiological base of traditional health and disease related prescriptions, rules, rituals, taboos and healing practices
- 1.3 Introduction to microbial world
- 1.4 Classification of microbes
- 1.5 Microbes that are beneficial to health
- 1.6 Ways that microbes help promote, maintain and protect health
- 1.7 Health benefits of microbiota and methods of preservation of beneficial microbes
- 1.8 Microbes that are harmful to human health
- 1.9 Listing diseases caused by Bacteria, Fungi, Parasite (Rickettsia, Chlamydia)
- 1.10 Introduction to community acquired microbial infections

Unit 2: Public health bacteriology **10 hours**

- 2.1 Definition of bacteriology and its public health importance
- 2.2 Scope of public health bacteriology
- 2.3 Bacteria - Meaning, morphology and classification of bacteria
- 2.4 Normal bacterial flora on or in the body and benefit and harmful effect of normal flora (GI, GU, URT)
- 2.5 Concept of opportunistic and pathogenic bacteria
- 2.6 Bacterial physiology and its growth factors
 - a. Mechanism of infection and pathogenesis
 - b. Infection or disease caused by bacteria
 - c. Morphology, mechanism of pathogenesis and prevention and control of some of the community concerned bacteria (Respiratory, genital and gastrointestinal diseases)
 - d. Lab diagnosis (Gram staining – Identification of bacteria, AFB staining)

Unit 3: Public health parasitology **10 hours**

- 3.1 Scope and public health importance of parasites and parasitology
- 3.2 Definition of parasite and classification of parasite (Protozoan, Helminthic)
- 3.3 Epidemiology, life-cycle, pathogenesis and pathogenicity, diagnosis and prevention and control measures of following parasites;
 - a. Protozoa – Entamoebahistoltytica, Giardiaintestinalis, Plasmodium, Leishmaniadonovani, Trichomoniasis
 - b. Helminths – Ascarislumbricoides, Anchylostomaduodelals and N. americans, Enterobiusvermicularis, Trichiuristrichiura, Taeniasolium, Taeniasaginata, Echinococcusgranulosus and Hymenolepsis nana and Wouchereriabancrofti.

Unit 4: Public health virology **8 hours**

- 4.1 Definition and public health importance of virology
- 4.2 Introduction (Meaning, morphology, classification of virus)
- 4.3 Replication of virus and cultivation of viruses
- 4.4 Virus good for health (Vaccine, normal flora)
- 4.5 Introduction to viral diseases of public health concern (Influenza, Measles, Arboviruses, Retrovirus, Rotavirus, Corona viruses, Picorna virus, Adenovirus)

- 4.6 Mechanism of infection and pathogenesis, transmission
- 4.7 Prevention and control of viral diseases
- 4.8 Laboratory identification of virus- Collection and preservation of specimen, laboratory identification of different specimen, serodiagnosis etc.

Unit 5: Public health mycology **2 hours**

- 5.1 Introduction, definition (Fungi good for health, benefit of Fungi), classification and methods of identification of fungal disease of public concern
- 5.2 Mycosis - Dermatomycoses, Candidiasis and Aspergillusis

Unit 6: Basic laboratory concept for public health **5 hours**

- 6.1 Introduction of laboratory protocols, study of universal precaution related to lab safety and post exposure prophylaxis
- 6.2 Principle of microscopy and study of different parts of light microscope
- 6.3 Definition - Sterilization, disinfection and antiseptic
- 6.4 Sterilization - Physical, chemical and radiation
- 6.5 Method of disinfection and their importance

Unit 7: Microbiology and public health immunology **6 hours**

- 7.1 Meaning, definition of immunology, microbial agents and antigen, antibody, immunity and its health protecting functions even after human expose to pathogenic microbes
- 7.2 Introduction to Immunology- innate and adoptive immunity, active and passive immunity, antigen, antibodies and their types, immunopathology
- 7.3 Cells and organ involved in immune system- Lymphoid cells
- 7.4 Defense mechanism first line defense mechanism second line
- 7.5 Third line defense mechanism of body
- 7.6 Cellular immunity- T-cell dependent and T-cell independent, antibody dependent and antibody independent. Humoral immunity- antigen presentation and processing
- 7.7 Hypersensitivity reactions and their type
- 7.8 Concept of vaccine and vaccination, type of vaccine, mechanism of vaccine
- 7.9 Concept and importance of cold chain

5. Teaching Learning Methods

Unit	Method/Media
1 - 8	Interactive lecture, group discussion, individual and group assignment followed by presentation, interactive and participatory methods supported by audio-visual materials and equipment, field observation

6. Evaluation scheme

Weightage

1. External (University examination)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading materials

1. Baveja C.P. "Text book of Microbiology" 4th edition
2. Ananthanarayan and Paniker "Text book of Medical Microbiology" 3rd edition
3. Chakraborty "Text book of Medical Microbiology" 3rd edition
4. Arora D.R, "Medical Parasitology" 4th edition.
5. Dr. Keshab Parajuli and Prakash Ghimire. "Text book of Microbiology"
6. "Hand book of Biochemistry and Microbiology". Tara Datta Bhatta, Samiksha Publication (2018).

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of public Health

1.Preliminaries

Course Title	Public Health Biochemistry	
First Year	First Semester	Course Code: BPH 101.4 PHB
Credit Hours: 3Cr (48 hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

The course has been designed to impart the basic concepts and knowledge of biochemistry to be applied particularly in understanding promoting health through nutrients intake, protecting health through strengthening immune system, and components of maintaining health environment. The course aims to impart the basic mechanism for survival of living system along with basic laboratory skills in conducting biochemical tests.

3. Course Objectives

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

1. Describe the basic concepts of biochemistry and its applications in health and diseases related core actions of public health.
2. Describe the functions of bio-molecules, their metabolism for survival of life and their associated disorders.
3. Explain mechanisms of biochemical agents in in promoting health and developing health problems or diseases, as well as the biochemical basis of early diagnosis and prognosis of the diseases.
4. Develop competency to determine and resolve health problems of the community.
5. Develop basic skills to conduct some of the biochemical tests in the laboratory.
6. Analyze the problem raised during the conduction of the biochemical tests and the understanding of the test results.

7. Explain the importance of biomolecules in terms of balanced diet and the common food items rich in carbohydrates, proteins and lipids.
8. Identify the roles of enzymes and isoenzymes in the diagnosis and prognosis of the diseases.
9. Describe the digestion and absorption of biomolecules, various metabolic pathways and associated disorders.
10. Know the functions and disorders related to endocrine hormones.

4. Course Contents

Unit 1: Introduction to Biochemistry 2 hours

- 1.1 Introduction and scopes of application of biochemistry in public health practice

Unit 2: Biomolecules and Metabolism 15 hours

- 2.1 Concepts of Biomolecules, complex biomolecules of life, overview of biomolecules in terms of balanced meal for promoting health and effects of biomolecules imbalance in the body
- 2.2 Carbohydrates: Definition, classification, metabolism, importance of carbohydrates to maintain and promote human health, concept of digestion, absorption and malabsorption, common food items rich in carbohydrates
- 2.3 Amino acids: Definition, Classification (based on structure, nutritional requirements & metabolic rate), importance in human body
- 2.4 Proteins: Definition, classification (based on functions, chemical nature, nutritional value, shape, structural organization), concept of digestion, absorption and malabsorption, importance in human body, common food items rich in proteins, functions of biologically important peptides and metabolism
- 2.5 Lipids: Definition, classification, importance in human body, common food items containing lipids and metabolism
 - Fatty acids : Definition, classification and importance
 - Importance of Cholesterol and Phospholipids in human body
 - Nucleic acids : Concepts of nucleotides, DNA –

structural features and importance of human DNA ;
RNA – types and importance

Unit 3: Enzymes

2 hours

Definition, classification, coenzymes, isoenzymes, application of enzymes

Unit 4: Vitamins and minerals

6 hours

4.1 Vitamins: Introduction, classification

- a. General chemistry, RDA, sources, biochemical functions, deficiency manifestations and toxicity of fat soluble vitamins
- b. General chemistry, RDA, sources, biochemical functions and deficiency manifestations of water soluble vitamins

4.2 Minerals: Introduction, classification of minerals based on daily requirements

- a. RDA, sources, biochemical functions of macrominerals (Ca, P, Mg, Na, K, Cl) and microminerals (Fe, I, Cu, Zn, Co, Cr, Mn, F, Se)

Unit 5: Metabolism

13 hours

5.1 Overview of metabolism

5.2 Digestion and absorption of carbohydrates, lipids and proteins

5.3 Conditions associated with maldigestion and malabsorption of carbohydrates, lipids and proteins

5.4 Metabolic Pathways:

- a. Glycolysis (Definition, importance, overview of pathway, net ATP generated)
- b. Citric acid cycle (Definition, importance, overview of pathway, net ATP generated)
- c. Gluconeogenesis (Definition, importance, overview of pathway)
- d. Glycogenolysis (Definition, importance, overview of pathway)
- e. Beta oxidation of palmitic acid (Definition, importance, overview of pathway, net ATP generated)
- f. Urea cycle (Definition, importance, overview of pathway)

- 5.5 Blood glucose homeostasis (Role of hormones, liver, kidneys)
- 5.6 Diabetes Mellitus (Definition, types, clinical features, acute & chronic complications, diagnosis, management)

Unit 6: Hormones

5 hours

- 6.1. Definition and classification of hormones
- 6.2. General chemistry, biochemical functions and clinical disorders of hormones of pituitary gland, thyroid gland, adrenal gland, pancreas, gonads
- 6.3. Measures to maintain hormonal balance

Unit 7: Water & electrolyte balance, acid-base homeostasis

5 hours

- 7.1 Plasma pH homeostasis: Role of plasma buffers, respiratory system and renal system
- 7.2 Health effects of plasma pH imbalance (acidosis and alkalosis)
- 7.3 Water and electrolyte balance: role of hormones
- 7.4 Health effects of water and electrolyte imbalance (Dehydration, water intoxication, hyper and hyponatremia, hyper and hypokalemia)

5. Teaching Learning Methods

Unit	Methods/media
1-7	Didactic lectures, group work, and review papers discussion in class room setting, use appropriate methods, demonstration, laboratory practical

6. Evaluation Scheme

Weightage

- 1. External (University examination) 80%
- 2. Internal 20%
 - a. Written examination (two examinations) 50%
 - b. Class attendance 25%
 - c. Class presentation and home assignment 25%

Reading Materials

- 1. Lehninger, AL: Principles of Biochemistry, CBS Publications

2. Murray RK, Granner DK, Mayes PA, Rodwell VW: Harpers Biochemistry, 21st Edition, Appleton and Lang: California, 1995
3. Arun Pandeya, Naveen Shreevastva, Arun Dhungana: A Textbook of Biochemistry for Nurses, first edition, Tara Publication, Chhetrapati Kathmandu, Nepal, 2073.
4. Chatarjee M. N., Shinde R.: Textbook of Medical Biochemistry, 5th Edition, Jaypee Brothers Medical Publisher (P) LTD, New Delhi, 2002
5. Goldsby R. A., Kinct TJ, Osborne BA, Kuby J: Immunology, 5th Edition, W.H. Freeman and Company, San Francisco, New York 2003
6. Satyanarayana U. Chakrapani U.,: Biochemistry, 3rd edition, Book and Allied (P) Ltd, Calcutta, India, 2006
7. Chakraborty P.,: A Text book of Microbiology, 2nd Edition, New central Book agency (P) LTD, Calcutta, India, 2003
8. Stryer, L.,: Biochemistry, 4th Edition, W.H. Freeman and Company, San Francisco, 2000
9. Ivan Riot: Essential Immunology, ELBS- 9th Edition, 1999
10. Cheesebrough M. "District Laboratory Practice in Tropical Countries" Volume I and II, Cambridge low price Edition, 1998.
11. Mukherjee Kannai L. "Medical Laboratory Technology" Volume I, II and III. McGraw-Hill Publishing Company ltd.
12. Fuerst R. "Microbiology in health and disease" W. B. Saunder 1995.
13. Mackle and Cartney MC. "Practical Medical Microbiology" Churchill Livingstone 1994.
14. Lyd Yard PM "Immunology" 14. Bailey & Scott's: Diagnostic Microbiology

Purbanchal University
Faculty of Medical and Allied Health Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Applied Professional English	
First Year	First Semester	Course code BPH 101.5 APE
Credit Hours: 3Cr (48 hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

Public health practitioners are expected to plan, implement and evaluate public health program in different setting/areas of public health. During the course of these actions, public health practitioner have to advocate, communicate properly both in written and spoken English languages, prepare proposal, plan and implement monitoring and evaluation plan and evaluate report in English language as it is widely used language of communication nationally and internationally. Therefore, this course is designed to impart the students with basic knowledg and skills on professional English that is applied in public health. The course includes basic grammer, sentence structure, note taking, technical writing, literature search, and presentation skills.

3. Course Objectives

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

1. Describe basic concept of technical English.
2. Identify sentence clause and its types and transformation of sentences.
3. Describe basic grammatical consideration in writing in English language.
4. Describe process of writing various forms of written communication in English that should be used during learning and professional practice.
5. Describe process of literature review and note taking.
6. Describe process of referencing under different styles.
7. Communicate verbally and effectively using or without using audio-visual equipment.

4. Course Contents

Unit 1: Basic English grammar, punctuation and mechanics

10 hours

- 1.1 Tense use and sentences transformation: writing past, present and future events
- 1.2 Sub-verb agreement: converting future statements to past statements
- 1.3 Punctuation: such as full stop, comma, dash, hyphen, colon, semi-colon
- 1.4 Mechanics: such as abbreviations, appropriate use of capital and small letters

Unit 2: Literature review, reading skills and note taking

8 hours

- 2.1 Meaning and type of literature review and its importance in public health study and practice
- 2.2 Basic concept of literature search and sources
- 2.3 Difference between desk review and literature review
- 2.4 Book review and film review
- 2.5 Reading techniques: such as skimming, scanning, intensive, extensive
- 2.6 Note taking: use of bibliography and note cards to take note
- 2.7 Types of notes: quote, paraphrasing, comments
- 2.8 Writing letter, its types and purpose

Unit 3: Purpose and style or format of technical writing

18 hours

- 3.1 Meaning, concept, purpose and importance of technical writing
- 3.2 Writing letter, its types and purpose
- 3.3 Writing curriculum vitae /resume
- 3.4 Writing job application
- 3.5 Memo writing and meeting minute writing
- 3.6 Term paper writing
- 3.7 Study proposal
- 3.8 Reports writing including study reports, field observation reports and event reports etc.
- 3.9 Event narration
- 3.10 Editing: manual and track change
- 3.11 Writing essays, stories, newspaper articles
- 3.12 Manuscript for journal and magazine publication

3.13 Writing an abstract, a summary and response

Unit 4: Referencing

6 hours

- 4.1 Citation and source acknowledgement
- 4.2 Purpose and process of various referencing style
 - a. American Psychology of Association (APA)
 - b. Vancouver

Unit 5: Presentation skills

6 hours

- 5.1 Concept of presentation and its importance among public health professionals for advocacy, awareness and campaign
- 5.2 Way of presentation: Power point presentation, paper presentation (Via news print, graphical presentation, poster presentation etc.)
- 5.3 Standard of power point slide preparation (content, font type, font size, design, lay out etc.)
- 5.4 Content delivery skill: Body gesture, eye contact, movement, way of explanation

5. Teaching Learning methods

Unit	Method
1-5	Didactic lectures, Group work, individual and group presentations Review papers discussion in classroom setting, writing memo, report, proposal

6. Evaluation Scheme

Weightage

- 1. External (University examination) 80%
- 2. Internal 20%
 - a. Written examination (two examinations) 50%
 - b. Class attendance 25%
 - c. Class presentation and home assignment 25%

Reading materials

1. Kaul, Asha. Business Communication skill
2. Sharon and Steven: Technical Communication Process and Product
3. Narayanshwami VR: Strengthen Your Writing, Orient Longman.
4. Tickoo C. and SasikumarJ.: Writing with a Purpose, Oxford UP
5. Gearson and Gearson: Technical Writing

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course title	Anatomy, Physiology and Pathophysiology -Laboratory Based Practice (LBP)	
First Year	First Semester	Course Code: BPH 101.2 APP- LBP
Credit Hours: 1Cr (32hrs)	Full Marks: 50	Pass Marks: 30

2. Course Description

The laboratory based practice(LBP) is a course designed to provide students the practical skills required to do necessary lab demonstration. Students will visit anatomy lab, observe, touch, felt the model or real object of human body anatomy, system, organ and/or part of the human body. Students will acquire practical knowledge and skill on human anatomy and physiology. Students will maintain practical book under the direct supervision of concern teacher. Around 20 students could be sitting in one event of practical. But it depends upon the practical room and setting.

3. Objectives

Upon the successful completion of the course, students will able to identify, draw and label anatomical parts of general body plan, cells, tissues, digestive, musculo-skeletal, respiratory, Blood and cardiovascular systems, neuro-sensory system, lymphatic system, endocrine system, reproductive system, urinary system, sense organs and describe their physiology .

4. Laboratory base practical contents

- Draw and label all the general body system
- Demonstration of different parts of human body (Dummy)
- Identify, draw and label positions of various glands and describe their functions

- Identify, draw and label cells and tissues and describe their functions.
- Identify, draw and label of different types of bones
- Identify, draw and label of different types of muscles
- Identify, draw and label respiratory system and describe the functions
- Identify, draw and label of heart, liver, gall bladder, spleen, lungs, eye, ear, etc
- Identify, draw and label of brain, spinal cord, nerve cell, and describe their functions
- Identify, draw and label of lymph, lymph nodes and describe their functions
- Identify, draw and label of human reproductive organs, placenta, umbilical cord and describe their functions
- Identify, draw and label urethra, bladder, kidney and describe their functions
- Identify, draw and label the anatomy of skin and describe the function

5. Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All students need to maintain practical book
- All practical logbooks should be signed by respective teacher
- All student must bring practical log book in the final practical examination
- Final examination is based on practical work

6. Evaluation Criteria

Weightage (50 marks)

a) Attendance in practical class and performance	-10 marks
b) Practical book/log book	-10 marks
c) Final Practical Examination	-30 marks

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health
Public Health Microbiology - Laboratory Based Practice

1. Preliminaries

Course title	Public Health Microbiology - Laboratory Based Practice	
First year	First Semester	Course Code: BPH 101.3 PHM-LBP
Credit hours: 1Cr (32 hrs)	Full marks: 50	Pass marks: 30

2. Course description

The Laboratory based practical is a course designed to equip the students with practical skills required to do necessary lab demonstration on microbiology. Students will observe the lab, equipments, instruments, collection of specimen, preservation, simple lab investigation and maintains all these things in log or practical book under the direct supervision of concern teacher. Students will acquire practical knowledge and skill on microbiology, virology, parasitology, bacteriology and immunology.

3. Objectives

Upon the successful completion of the course, students will able to identify, draw and label of different micro-organisms, identify the equipments, and chemicals used in lab, collect the specimen, prepare slides and investigates.

4. Laboratory base practical contents

- Identification of equipments/articles and chemicals and their use in microbiology lab (microscope, hot air oven, autoclave, incubator, laminar air flow cabinet, water bath, Bunsen burner, wire gauge, tripod stand, micropipette, digital pH meter etc)
- Selection, collection, transportation, storage and processing of samples for laboratory diagnosis of microbial diseases
- Basic culture media and culture techniques
- Performance of Gram stain, AFB stain and identification of bacteria

- Collection, preparation of slides, identification of common blood, measurement of hemoglobin
- Preparation of slides (smears) and identification of ova, parasites, cyst trophozoites from stool specimen.

5. Maintain process of log or practical book

- Write practical specific detail description, process and draw and label different micro-organisms and equipments manually
- Maintain log/practical book
- All log/practical book should be signed by respective teacher
- All student must bring log/practical book in final examination
- Final examination is based on practical work

6. Evaluation scheme

Weightage (50 marks)

a) Attendance, discipline and performance	-10 marks
b) Practical book/log book	-10 marks
c) Final Practical Examination	-30 marks

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health
Public Health Biochemistry - Laboratory Based Practice

1. Preliminaries

Course Title	Public Health Biochemistry - Laboratory Based Practice	
First Year	First Semester	Course Code: BPH 101.4 PHB-LBP
Credit Hours: 1Cr (32 hrs)	Full Marks: 50	Pass Marks: 30

2. Course Description

The laboratory based practical is a course designed to equip the students with practical skills required to do necessary lab demonstration. Students will observe the lab, identify equipments, instruments, collection of specimen, preservation, simple lab investigation and maintains all these things in log or practical book under the direct supervision of concern teacher. Students will acquire practical knowledge and skill on public health biochemistry. Maximum 20 students could be sitting for effective practical in one event. But it depends upon the practical room and setting

3. Objective

Upon the successful completion of the course, students will able to find out the equipment and chemicals used in Biochemistry, prepare standard solutions, Buffer solution, Quantitative tests of micro-nutrients and qualitative tests in lab.

4. Laboratory based practical contents

a) Introduction to instruments and its applications in biochemistry laboratory (Colorimeter, Centrifuge, water bath, pH meter, beaker, flask, test tubes, urine strip for glucose, urine collection container, pregnancy test kit, iodine solution, filter papers, glucose reagent kit, total protein reagent kit, etc)

b) Preparation of standard solutions

- Normality

- Motality
 - Percentage solution
- c) Preparation of Buffer solution
- Acetate buffer of various pH
- d) Use of pH paper and pH meter
- e) Quantitative tests
- Estimation of carbohydrate
 - Estimation of Protein
 - Estimation of Lipids
- f) Qualitative tests
- Estimation of blood glucose by Kit
 - Estimation of blood total protein by Kit
 - Estimation of cholesterol by Kit
- g) Demonstration- Paper Chromography/TLC
- 5. Maintain process of log or practical book**
- Maintain process of log or practical book
 - Write practical specific detail description, process and drawing with manually
 - All practical should be signed by respective teacher
 - All student must bring practical log book in practical examination
 - Practical examination is based on practical work

6. Evaluation scheme Weightage (50 marks)

- a) Attendance in practical class and performance -
10 marks
- b) Practical book/log book -10 marks
- c) Final Practical Examination -30 marks

First Year

Second Semester

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Public Health Entomology and Rodentology	
First Year	Second Semester	Course Code: BPH 102.1 PHER
Credit hours: 3Cr (48 hrs.)	Full Marks: 100	Pass Marks: 50

2. Course Description

Preventing healthy population from diseases to be transmitted by arthropods and rodents is one of the core actions of public health practitioners. Public health practitioners need to deal with activities focused on control of these arthropods and rodents. Medical treatment of diseases of arthropods and rodents is not the functions of public health practitioners. Therefore, practitioners should develop knowledge and skills on entomology of major and common insects and rodentology from public health perspectives. To this broader aim this course deals with subject matters including introduction to entomology and rodentology, descriptions of various types of arthropods and rodents, and public health measures to prevent and control insects and rodents.

3. Course Objectives

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

1. Explain the concept of entomology and rodentology.
2. Describe the morphology and other phenomena of Arachnida, insect including mosquito, crustacean.
3. Describe the importance of controlling insects and rodents in public health.
4. List various diseases associated with arthropods and rodents particularly those associated with mosquitoes.
5. List and describe various principles of arthropod control.
6. Identify and explain the public health actions and interventions against arthropods and rodents.

4. Course Contents

Unit 1: Introduction to public health entomology **10 hours.**

- 1.1 Need for studying entomology by public health practitioners: understand habitat of insects, understanding problems created by insects, taking appropriate measures to control breeding of insects, to prevent exposure of healthy population to insect bites, to devise appropriate strategies to prevent and control insect-borne diseases
- 1.2 Definition of public health entomology differently from medical entomology
- 1.3 Entomology as the basis for understanding nature of arthropod-borne health hazards, diseases, their control and prevention measures including public health interventions
- 1.4 Overview of roles and functions of public health practitioners regarding arthropods control
- 1.5 Introduction to control different arthropods of public health concern
- 1.6 Overview of classification of arthropods
 - a. Arachnida: Scorpions, spiders, ticks, mites
 - b. Class insecta:
 - Non-dipterous insects: Lice, rat fleas, bugs, cockroach
 - Dipterous:
 - Myasis producing: flies, housefly
 - Phlebotomine: Sand flies
 - Simulium: Black flies
 - Special insect of public health concerned: Mosquito
 - Anopheline group
 - Culicine group (culex, aedes, mansonias)
 - c. Crustacea:
 - Cyclops
 - Crabs, lobsters, prawns (Consumed as foods)

Unit 2: Arachnida: Scorpions, spiders, ticks, mites **2 hours**

- 2.1 Morphology classification, life cycle, habitat of , health hazards and diseases associated with, mode of transmission of diseases or creating health hazards by arachnida arthropods
- 2.2 Public health core actions:

- a. Control of existence of arachnidas near human dwellings
 - b. Prevention of biting-stinging by arachnidas
- 2.4 Providing first aid care for arachnida bite-sting

Unit 3: Class insecta:Lice, rat fleas, bugs, cockroach, flies, mosquitoes **5 hours**

- 3.1 Morphology classification, life cycle, habitat of, health hazards and diseases associated with, mode of transmission of diseases or creating health hazards by insect arthropods
- 3.2 Public health measure: Control of existence of insects near human dwellings
- 3.3 Public health measure: Prevention of biting-stinging by insects
- 3.4 Providing first aid care for insects bite-sting

Unit 4: Special insect: Mosquito **4 hours**

- 4.1 Morphology, classification, life cycle, habitat of; health hazards and diseases associated with; mode of transmission of diseases or creating health hazards by mosquito
- 4.2 Public health measure: Prevention of biting by mosquito
- 4.3 Public health measure: Integrated control of existence of mosquitoes (vectors) near human dwellings

Unit 5: Crustacea:Cyclops, crabs, lobsters, prawns **3 hours**

- 5.1 Morphology of, health hazards and diseases associated with, mode of transmission of diseases or creating health hazards by crustacea arthropods
- 5.2 Public health measure: Control of existence of crustacea near human dwellings
- 5.3 Public health measure: Prevention of biting-stinging by arachnidas
- 5.4 Providing first aid care for crustacea bite-sting

Unit 6: Principles of arthropod control **6 hours**

- 6.1 Offensive measures: attacking and killing e.g. use of insecticides
- 6.2 Defensive measures: personal protective measures e.g use of repellants, curtains, (as applicable) and netting of doors and windows

- 6.3 Corrective measures: modification of environment: creating unfavorable environment to lay the eggs
- 6.4 Integrated approach: Combination of various measures: need and important
- 6.5 Recent methods of control of vectors: genetic control, insect growth regulators, chemosterilants, sex attractants, pheromones or ectohormones

Unit 7: Concept of rodentology **8 hours**

- 7.1 Definition of rodentology and rodents
- 7.2 Rodents of public health concern and their classification
 - a. Ratus-ratus; musculus;ratus norvegicus; Bandicoota India
 - b. Characteristics of the rodents and the way they affect health of the human being
- 7.3 List of diseases caused by rodents

Unit 8: Public health measures against arthropods and rodents **10 hours**

- 8.1 Prevention from contact: rat proof storage of food items, closing of rat openings, proper disposal of waste including garbage
- 8.2 Prevention from bites
- 8.3 Integrated control measures of arthropods and rodents: Killing through use of chemicals, insecticides, pesticides, gases, trapping
- 8.4 Public health interventions: health education, policy and rules, infrastructure building
- 8.5 Overview of Nepal Vector Borne Disease Control Program and brief highlights of socio-economic changes brought about by control of mosquitoes in Southern Nepal in particular

5. Teaching-learning activities

	Method/media
1-8	Interactive lecture and participatory methods supported by audiovisual materials and equipment, Group discussion, Laboratory demonstration of specimens, identification of

	equipments, Individual and group assignment followed by presentation
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6. Evaluation scheme	<u>Weightage</u>
1. External (University examination)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading materials

1. Handbook on management of Pesticide Poisoning published by Plant Protection Division, Ministry of Agriculture
2. Implementation of integrated vector management, report of regional meeting, SEARO2010
3. PG Fenemore, Alka Prakash” Applied Entomology” New Age International P Ltd.
4. B. S. Mishara and Dr. R. P. Singh “A Text book of Medical Zoology”. Durga Books,2000.
5. Gordon, R.M. (1978). Lavoipoerre, M.M.J.; Entomology for Students of Medicine. 5th ed., Blackwell Scientific Publications
6. Service SM. Lecturer notes on medical entomology. London, Blackwell Scientific, 1986
7. Jan A. Rozendaal. Vector control. WHO, Geneva, 1999
8. Shrestha, J. M. (2016). Introduction to Medical Entomology

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Public Health Pharmacy, Pharmacology and Toxicology	
First Year	Second Semester	Course Code: BPH 102.2 PHPPT
Credit Hours: 3Cr (48 hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

This course has been designed to impart knowledge and skills on basic concept of public health pharmacy, pharmacology and toxicology to the students as they will be future public health practitioners having responsibility of encouraging people for rationale use of promotional, preventive and protective pharmaceutical products. Besides, the practitioners will have responsibility of logistic management of pharmaceutical products. The course intends to highlight the contents from the public health perspectives, i.e. use of knowledge of pharmaceutical preparations including drugs commonly used, their appropriate storage and toxicity as well as knowledge of drugs action for the purposes of promoting health, preventing diseases, protecting health and encouraging ambulatory patients to comply with drug treatment.

3. Course Objectives

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

1. Describe terminologies related to pharmacy and pharmacology related terminologies.
2. List out pharmaceutical preparations of different dosage forms like solids, oral liquids, injections, vaccines & sera, and topical preparations etc., these drugs commonly used for health promotion, disease prevention, health protection and their mechanism of actions, indications and contraindications.
3. Identify the various common adverse effects of commonly used drugs and enumerate the name of emergency drugs, essential drug lists, their procedure of administration and mode of actions.

4. Describe the basic concepts and acquire the basic knowledge of drug quality assurance.
5. Describe the basic concepts and acquire the basic knowledge of toxicology and its implication in public health.
6. Explain diversity of toxicology and its application in understanding and controlling problems related to toxic substance in industry, agriculture, medicine and the environment.
7. Identify the roles of public health practitioners with regard to supervision for proper storage and procurements of drugs and medicines.

4. Course Contents

Unit 1: Introduction to pharmacy and pharmacology: 6 hours

- 1.1. Importance of the study of pharmacy, pharmacology and toxicology in the field of public health practice:
 - a. Different types of pharmaceutical preparation like solid dosage forms (tablets, capsules & powders), oral liquid dosage forms (drops, syrup, suspensions, emulsion), parenterals products, aesorols, vaccines and sera, and topical preparations (ointments, cream and eye drops, ear drops, nasal drops).
 - b. Types, mechanisms of action, indications of various drugs and medicines used to treat systemic disorders and diseases so that the practitioners could help community people for proper use of drugs
- 1.2 Terminology, definition and subject matters of pharmacy, pharmacology and toxicology
- 1.3 Introduction to drugs:
 - a. Meaning of drug, medicine, prodrug, crude drug, and their purposes
 - b. Pharmaceutical preparations for promoting health of the healthy people and treating disease and infirmity of unhealthy people
 - c. Sources, classification of drugs, routes of drug administration and pharmacokinetics (absorption, distribution, metabolism, excretion, ADME).
 - d. Concept of adverse effects of drugs, adherence and drug interactions and their prevention

1.4 Applications of pharmacology from the public health perspective:

- a. Health promotive pharmacology (related to pharmaceutical preparations used to enhance health status of healthy population)
- b. Preventive pharmacology (related to pharmaceutical preparations which used to prevent exposure to and occurrence of disease)
- c. Protective pharmacology (related to pharmaceutical preparations which help prevent onset of disease even after exposure to disease agents like pathogens)
- d. Community (indigenous) pharmacology (related to preparation and used of indigenous rude drugs at households) like ginger, tulsi, neem, turmeric, black paper, clove, etc.
- e. Clinical pharmacology (related to treatment of diseases and optimization of drug therapy)

Unit 2: Health promotive pharmacology

2 hours

2.1 Meaning and overall purpose

2.2 Pharmaceutical preparation, indications and purpose of use

- a. Micronutrient supplements vitamins (Vit A, D) and minerals (iodine, folic acid, zinc and selenium), Vit. A and Zinc for child survival, iron, folic acid and calcium for maternal and new born survival and health
- b. Tonics: Liver tonic, iron, and Vit. B12 tonic, appetizers (cyprohetadine)
- c. Fertility enhancing agents: Clomiphene, Gonadotropins and vit. E

Unit 3: Preventive pharmacology

2 hours

3.1 Meaning and overall purpose

3.2 Pharmaceutical preparation, indications and purpose of use of:

- a. Disinfectants: Chlorine, and chlorine compounds (hypochlorides, sodium hypochloride as liquid and calcium hypochloride as solid), hydrogen peroxide, phenols
- b. Hormone contraceptives and condoms with spermicide

- c. Water and air purifying agents: Bleaching powder for water treatment, potassium permanganate, HEPA filter for air particles filtration
- d. Insecticides, rodenticides and repellants
- e. Iodized salts for goiter control in hilly area
- f. Rehydrating agents (ORS)

Unit 4: Health protective pharmacology **2 hours**

- 4.1 Meaning and overall purpose
- 4.2 Immunological preparation, their indications, purpose of use and proper storage conditions
 - a. Diagnostic agents
 - b. Sera and immunoglobulins
 - c. Vaccines for universal immunization and for specific groups of individuals
- 4.3 Cold chain: meaning, importance, criteria, process, maintenance and inspection

Unit 5: Community (indigenous) pharmacology **2 hours**

- 5.1 Meaning and overall purpose
- 5.2 Meaning of and self medication practices in the community
- 5.3 Highlights of pharmaceutical preparations, indications and purpose of use
 - a. Drugs commonly used in the community (outside the medical care centers including hospitals, clinics) for relieving ailments pain, fever, acidity at households (self-medication)
 - b. Herbal preparations: Sancho, Clove oil, Vicks, herbs water, Aleovera, Pudina, Tulasi etc.

Unit 6: Clinical pharmacology

10 hours

- 6.1 Meaning and overall purpose
- 6.2 Pharmaceutical preparation, indications and purpose of use: commonly used drugs for treatment of diseases and disorder of:
 - a. Central and autonomic nervous systems
 - b. Respiratory system
 - c. Circulatory system
 - d. Digestive system including Gastrointestinal tract

- e. Reproductive system
- f. Endocrine system
- g. Skeleto-muscular system
- h. Insect-borne diseases
- i. Sense organs
- j. Lifesaving drugs: introduction, classification, mechanism of action, fate of drugs, side effects, indications and contraindications of at least 10 drugs (including Atropine, Adenosine, Adrenaline, Dopamine, Hydrocortisone, Magnesium sulphate, Potassium chloride, Sodium bicarbonate, Mannitol, Naloxone.)

Unit 7: Introduction to pharmacy

6 hours

- 7.1 Definition, and scope of pharmacy
- 7.2 Opportunities and importance of use of knowledge and skills on pharmacy by public health practitioners
 - a. Productive supervision and inspection of pharmacy section of medical care centers as well as community pharmacies
 - b. Basis of encouraging community-based (ambulatory) patients to encourage for compliance to medication treatment
 - c. Public health practitioners' and professionals' role on medicine and medication information
- 7.3 Essential drug scheme
 - a. Features, needs, criteria and purpose
 - b. Essential drug lists
 - c. Concept of Drug Policy, Drug Act and Standard Treatment Guidelines of Nepal
- 7.4 Drug quality assurance:
 - a. Introduction to quality assurance and definition of drug quality assurance
 - b. Importance of date of manufacture and expiry date of drugs, batch no of products, handling and drug storage, shelf- life and potency drugs
 - c. Concept on manufacturing and sales of drugs and related products in Nepal.
 - d. Procurement and supply chain management system in healthcare facilities of government of Nepal.
 - e. Community pharmacy and role of pharmacy in PHC

- d. Pharmacy inspection in the community: Purpose, importance, criteria, promotive and correctional actions specially storage conditions of products and cold-chain maintenance of biological products and vaccines. Separation of expired products from storage cupboards.

Unit 8: Toxicology

16hours

Introduction to toxicology:

- a. Definition, scope and application of toxicology
- b. Terminologies used in toxicology
- c. Basic principles of toxicity:
- d. Toxic and toxicity, toxicity value, acute and chronic toxicity
- e. Factors that influence toxicity and route of exposure.

8.1 Diversity of Toxicology

- a. Occupational (industrial) toxicology: Definition, different values, implication in human health, determination of acceptable exposure limit
- b. Environmental toxicology concept of ecotoxicology and fate of pathogen: evolution of pathogen resistance, antimicrobial resistance, fate of pollutant
- c. Risk assessment and management (Definition, scaling of risk, steps in determining of risk, components and risk management framework)
- d. Route of exposure
- e. Environmental toxicity management

8.2 Pesticide Pollution

- a. Introduction, pesticide use in public health, major pesticides use in Nepal
- b. Effect of different group of pesticides (including, organochlorines, organophosphates and carbamates,)
- c. Impact of pesticides on human health,
- d. Impact of pesticides on environment

8.3 Forensic toxicology

- a. Definition, causes of poisoning, diagnosis of poisoning (physical, biochemical assessment)
- b. Treatment of poisoning, prevention of re-exposure and case studies

8.4 Cholinergic and anticholinergic drugs relating to poisoning:

- 8.5 Introduction, classification, mechanism of action, fate of drugs, side effects, indications and contraindications of acetylcholine, pilocarpine, phyostigmine, neostigmine, ecothiophate, DFP, Atropine and Hyoscine.

Unit 9: Public health intervention related to pharmacy

pharmacology and toxicology

2 hours

- 9.1 Health education of the general population and community-based patients
- 9.2 Empowerment of people to adhere rational use of drugs
- 9.3 Implementation of related policy and regulations
- 9.4 Managerial measures

5. Teaching-learning activities

Unit	Method/media
1-9	Interactive lecture and group discussion, Illustrative lecture, real objects, Laboratory demonstration, Field visits and interaction, group and individual assignment and presentation,

6. Evaluation scheme

weightage

- | | |
|---|-----|
| 1. External (University examination) | 80% |
| 2. Internal | 20% |
| a. Written examination (two examinations) | 50% |
| b. Class attendance | 25% |
| c. Class presentation and home assignment | 25% |

Reading materials

1. Katzung BG: Basic and Clinical Pharmacology, 14th Edition, 2017 Lange, Medical Books. McGraw-Hill, New York, 2017.
2. Tripathi K.D. Essentials of Medical Pharmacology, 8th Edition, 2018
3. Lippincott, Illustrative Reviews Pharmacology 7th edition, 2018. LWW, USA
4. WHO list of Essential drugs, WHO, 1977
5. Standard Treatment Guidelines published by DDA, 1998.
6. Textbook of Pharmacology for Nurses and Allied Health Science by P. Kamalakannan, CBS publication

7. Goodman & Gillman`s: The Pharmacological Basis of Therapeutics, 13th Edition,2017, Mac Graw Hill , New York.2017.
8. Satoskhar; Pharmacology and Therapeuitcs 24th edition, 2015, Elsevier
9. Bennetts: Clinical Pharmacology, 11th edition,2012. Churchill Livingstone UK
10. WHO Formulary 2002, World Health Organization,; www.who.int
11. Documents related to Drug Act and National Drug Policy published by DDA, Department of Drug Adminsitration,; www.dda.gov.gp
12. Wall Chart on management of commonly encountered poisons in Nepal 2000
13. Amdur MO, Doull J, Klaassen CD: Casarett and Doull`s Toxicology: The Basic Science of Poisons, 5th ed. McGraw Hill: New York; 1996
14. Olson KR, Anderson IB, Clark RF et al.: Poisoning and Drug Overdose, 3rd ed. Appleton & Lange: Stamford, Connecticut, 1999.
15. Handbook on management of Pesticide Poisoning published by Plant Protection Division, Ministry of Agriculture

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	First Aid and Safety	
First Year	Second Semester	Course Code: BPH 102.3 FAS
Credit Hours: 3Cr (48hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

This course is designed to deal with basic theoretical concept of safety and first aid. Public health practitioners often have to deal with emergency situations such as accidents and other fatal events confronted by target population. In such conditions, affected individual or group may need non-clinical first-aid care and safety measures immediately. Public health professionals need to know about first aid and safety measures that can be applied in any emergencies/disasters/accidents in different setting. Therefore, this course is intended to impart the students with basic knowledge and skills of first aid and personal safety and setting wise health hazards safety measures to prevent accidents and care of sense organs. Upon the completion of this course public health students will be able to identify the health hazards/risks/conditions associated with different settings like home, village/community/city, worksite, schools/colleges/universities, sport setting and entertainment setting etc. where people may require first aid. With the knowledge the students will be able to provide first aid measures as appropriate.

3. Course Objectives

Upon completion of this course, students will be able to:

1. Explain the basic concepts of first aid and safety.
2. Describe the basic concepts of healthy setting, high risk setting and low risk setting.
3. Identify the personal and setting wise health hazards and safety measures.
4. Identify common risks/conditions associated with settings that may require first aid.

5. Differentiate first aid vs. casualty management.
6. Explain the catalyst role for safety and first aid intervention measures at settings.

4. Course Contents

Unit 1: Concept of safety

10 hours

- 1.1 Definition of safety and its importance to maintain health of the healthy people
- 1.2 Public health practitioners as safety conscious and first aid care providers with prevention focused responsibility; the catalyst role for ensuring safety and first aid care provisions in various settings including training of first aid care providers
- 1.3 Types of safety
 - Definition and concept of personal safety
 - Definition and concept of setting wise health hazards and safety
- 1.4 Concept, meaning and characteristics of healthy setting (no-risk), high risk and low risk setting requiring safety measures
- 1.5 Overview of personal safety measures including protection of sense organs and other body parts in order to avoid everyday life.
- 1.6 Overview of setting wise health hazards and safety measures in relation to setting where people live, work and spent leisure time such as home, village/community/city, worksite, schools/colleges/universities, sports, public places, and entertainment setting

Unit 2: Concept of first aid

10 hours

- 2.1 Definition and meaning of key terms, first aid, first aider, first aid equipment, first aid facilities and survivor
- 2.2 Qualities, and role and responsibilities of first aid provider
- 2.3 Overview of first aid, aim: “Three P’s” (Preserve life, Prevent further injury, and Promote recovery) and importance of first aid
- 2.4 Overview of first aid measures including maintaining ABC, positioning, immobilizing, dressing, bandaging, referral and safe transfer of survivor
- 2.5 Cardiopulmonary resuscitation (CPR): definition, steps and process
- 2.6 First aid vs. casualty management

Unit 3: Common risks/conditions/accidents associated with different setting that may require first aid **20 hours**

3.1 Definition, types, causes, sign and symptoms of the conditions and its first aid as appropriate.

a. Personal safety risks/conditions/accidents at different setting, its first aid and preventive measures to ensure personal safety

- Fall, Injury/trauma, fracture and dislocations
- Injury/trauma to the sense organs (Eye, ear, nose, tongue and skin)
- External bleeding/ Hemorrhage
- Bites: Common animal bites including human bites, dog bites, Insect bites, snake bites
- Burn: Definition, types, causes, effects
- Poisoning: Food, insecticides, rodenticides, drugs, plants, chemical poisoning, Suffocation
- Foreign body in sense organs and other body parts (Prick from sharp things like glass, metal wires, nails, wooden sticks, thorn etc.)
- Choking
- Drowning
- Heatstroke
- Frostbite
- Altitude sickness

b. Shock

c. Psychological first aid

Unit 4: Safety and first aid intervention measures **8 hours**

4.1 Educational intervention at settings: Awareness and training

4.2 Infrastructural intervention at settings: Allocation of first aid kit box, first aid procedure manual, personal protective equipments/measures, first aid/sick room etc.

4.3 Policy/Legal intervention at settings: keeping site safety rules/plan

4.4 Management intervention: supervision, record keeping and reviewing first aid requirements

5. Teaching-learning activities

Unit	Method/media
1-4	Interactive lecture and group discussion, Illustrative lecture, interactive and participatory T/L methods support by audiovisual materials and real objects Demonstration, role play, Video show of first aid care procedures

6. Evaluation scheme

Weightage

1. External (University examination)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading materials

1. Government of Nepal, (2017). Occupational Safety and Health Guidelines. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-Kathmandu/documents/webpage/wcms_562125.pdf
2. International Federation of Red Cross and red Crescent Societies, (2015). Law and first aid: Promoting and protecting life-saving action. Retrieved from [https://www.ifrc.org/Global/photos/Secretariat/201506/First%20Aid%20Law%20Advocacy%20Report%20\(final\).pdf](https://www.ifrc.org/Global/photos/Secretariat/201506/First%20Aid%20Law%20Advocacy%20Report%20(final).pdf)
3. Shirley, A. J. (2012). First Aid Survival and CPR: Home and Field Pocket Guide. Mantesh. F. A. Davis Company: Philadelphia (ebook)
4. Jain, N. C. & Saakshi (2011). First Aid and Emergency care. (Revised 1st ed.) AITBS Publishers. Delhi: India
5. Kirby, N. G. & Mather, S. J. (2004). Balliere's Handbook of First Aid. (7th ed.). AITBS Publishers. Delhi: India
6. Pathak, T. (2061). First Aid and Basic Surgery. (5th ed.). Vidyarthi PustakBhandar, Kathmandu: Nepal

7. Emergency safety and first aid handbook:http://www.ddm.gov.bt/download/Emergency%20Safety%20and%20First%20Aid%20Hand%20Book_English.pdf

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Basic Food and Nutrition	
First Year	Second Semester	Course Code: BPH 102.4 BFN
Credit Hours: 3Cr (48 hrs)	Full Marks:100	Pass Mark: 50

2. Course Description

This course has been designed to deliver concept on food and nutrition science. Understanding about food and nutrients and their biochemical characterization will equip students with the idea of its effect on human anatomy and physiology. Thereby providing a clear understanding on the roles of foods and nutrients for promoting people's good health and protecting their health through increased immunity is imperative. Moreover, this course also includes detail study of the nutrients and their actions on human health and their imbalances which may create many acute and chronic nutrition related problems in Nepal and worldwide. Also, it will help students to examine food safety and hygiene issues and their management procedures. Thus, this course will relate with prevention form diet related illness and food borne disease and encouraging for the early detection of such nutritional disorders and disease and helps in taking action for the prompt treatment. This course also includes food and consumption patterns of Nepalese people in context with the culture and social exposure which helps students to gain knowledge on such subjects and apply this knowledge for the promotion of nutritional wellbeing of the community.

3. Course Objectives

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

1. Describe the role of food and nutrition science in public health
2. Explain good nutrition as one of the measures of promoting health.
3. Learn about the basics of food and nutrients and its imbalances in health.

4. Describe the importance of food and nutrients across human life cycle.
5. Identify junk food practices; explain food safety and hygiene issues and its management procedures.
6. List deficiency disorders and food borne diseases and briefly highlights their prevention and control measures.

4. Course Contents

Unit 1: Introduction to basic food and nutrition science 4 hours

- 1.1 Role of public health practitioner regarding food and nutrition science
 - a. Overview of role and function of food and nutrients on building human anatomy and physiology
 - b. Highlight the relationship of biochemistry of nutrients on anatomy and physiology
 - c. Advocacy role for adequate food (food security)
 - d. Educational role on balanced and nutritious food
 - e. Proactive role for food safety
- 1.2 Concept, definition of food and nutrition science
- 1.3 Nutrition or proper diet as one of the measures of promoting health
- 1.4 Definition, composition and classification/types of food and nutrients
- 1.5 Health importance of whole and unprocessed foods

Unit 2: Carbohydrate 6 hours

- 2.1 Introduction, classification/types, source, function, daily requirement, digestion, metabolism and utilization
- 2.2 Function of carbohydrate in promoting health
- 2.3 Carbohydrate imbalance disorder (deficiency and excess), its preventive and control measures
- 2.4 Overview of adequacy and deficiency of carbohydrate contents in typical Nepalese typical diet/meals

Unit 3: Protein 6 hours

- 3.1 Introduction, classification/types, source, function, daily requirement, digestion, metabolism and utilization
- 3.2 Function of protein in promoting and protecting health
- 3.3 Protein imbalance disorder (deficiency and excess), its preventive and control measures

3.4 Overview of adequacy and deficiency of protein contents in typical Nepalese typical diet/meals

Unit 4: Fat **6 hours**

4.1 Introduction, classification/types, source, function, daily requirement, digestion, metabolism and utilization

4.2 Function of fat in promoting and protecting health

4.3 Fat imbalance disorder (deficiency and excess), its preventive and control measures

4.4 Overview of adequacy and deficiency of fat contents in typical Nepalese typical diet/meals

Unit 5: Vitamins (micro-nutrients) **6 hours**

5.1 Introduction, classification/types, source, function, daily requirement, digestion, metabolism and utilization

5.2 Function in promoting and protecting health through Vitamin A as immune supportive nutrient and Vitamin C as immune-stimulating nutrient, Vitamin E as immune response improving nutrient

5.3 Imbalance/ disorder (deficiency and excess) and preventive and control measures

5.4 Overview of adequacy and deficiency of vitamins (micro-nutrients) contents in typical Nepalese typical diet/meals

Unit 6: Minerals (micro-nutrients) **6 hours**

6.1 Introduction, classification/types, source, function, daily requirement, digestion, metabolism and utilization

6.2 Function of minerals in promoting and protecting health through accelerating the growth of immune cells (Zinc)

6.3 Imbalance/ disorder (deficiency and excess) and preventive and control measures

6.4 Overview of adequacy and deficiency of mineral contents in typical Nepalese typical diet/meals

Unit 7: Recommended Dietary Allowances (RDA) for life cycle stages **-2 hours**

7.1 Nutrition and food requirement and its importance with RDA for:

a. Infant

b. Young child

c. Preschool children

- d. School going children
- e. Adolescents
- f. Pregnant women
- g. Lactating mother
- h. Adults
- i. Old age people

Unit 8: Introduction to balanced diet **4 hours**

- 8.1 Meaning, definition and importance of balanced diet for prevention of nutritional imbalance disorder: Malnutrition, obesity, anaemia, Xerophthalmia, etc. as mentioned in unit 2-6)
- 8.2 Concept of food guide (food guide pyramid, my pyramid and my plate), dietary guidelines for Nepalese people
- 8.3 Junk food as a threat (unhealthy) to the concept of balanced diet
 - a. Meaning and examples of junk food
 - b. Disadvantages
 - c. Highlights of difficulties faced by people in intake of balanced meals and avoiding junk food and responsibilities of public health practitioners on these issues

Unit 9: Food hygiene, adulteration and food safety **8 hours**

- 9.1 Food Hygiene
 - a. Meaning and importance of food hygiene: meat hygiene, milk hygiene and other foods
 - b. Maintaining food hygiene at i) home ii) hotel/restaurants and iii) markets
 - c. Maintaining hygiene of meat and milk.
 - d. Food borne diseases and its preventive and control measures
 - e. Highlight food related taboos prevalent in Nepalese communities
- 9.2 Food Adulteration
 - a. Meaning
 - b. Ways of food adulteration
 - c. Identification of food adulteration and motives behind the adulteration practices
 - d. Health effects caused by adulteration
 - e. Policy- regulatory interventions and other preventive measures

9.3 Food safety

- a. Meaning, importance of food safety overall food chain (from food production to consumption)
- b. Principle of food safety and hygiene
- c. Concept and importance of food fortification with particular fortification practices in Nepalese communities

5. Teaching and learning activities

Unit	Methods
1 -9	Short lecture, Group discussion and presentation, demonstration of food groups, group activity and exhibition, document review, document show

6. Evaluation Scheme Weightage

- | | |
|---|-----|
| 1. External (University examination) | 80% |
| 2. Internal | 20% |
| a. Written examination (two examinations) | 50% |
| b. Class attendance | 25% |
| c. Class presentation and home assignment | 25% |

Reading materials

1. Bansal, Srinandan, (Recent Edition). *Food and Nutrition*: A.I.T.B.S Publishers.
2. Sapkota, Sushma, (2019). *Comprehensive Textbook of Food and Nutrition*: Samiksha Publication Pvt. Ltd.
3. B, Srilakshmi. (Recent Edition). *Nutrition Science*: New Age International
4. Park, K, (Recent Edition). *Text book of social and preventive medicine*:
5. Bharati, Mamata. Mehta, K, Rakesh. *Nutrition and Dietary Management*: Mehavi Publication
6. Satyanarayana, U. (Recent Edition). *Biochemistry*: Books and Allied P.Ltd
7. Shrestha, J. M. (2015). *Food, Nutrition and Dietetics*
8. Michael, J Gibney, *Public Health Nutrition*, Black well
9. Bamji, MS, Rao, NP, Reddy V. *Textbook of Human Nutrition*, Oxford & IBH Publishing Co.Pvt. Ltd.

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Ecosystem and Environment Health	
First Year	Second Semester	Course Code: BPH 102.5 EEH
Credit Hours: 3Cr (48hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

There is an inseparable relationship between human and environment. Human depends on environment for their survival, health, resources, growth and development. Better environmental condition gives good health and longevity therefore this course will give knowledge and understanding about better environmental conditions and their impact on better human health. This course will also provide perspective about environmental pollution and degradation brought by human behavior and activities. With the knowledge, public health practitioners understand their role on environmental education, health promotion, policy and regulatory, infrastructural, community organization, mobilization, participation or action and managerial role for promoting good environmental condition, preventing risk factors and diseases caused by environmental degradation, protecting our environment and ecosystem, controlling epidemics of environmental related diseases and encouraging people for early detection, treatment and compliance to treatment.

3. Course Objectives

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

1. Explain about environment and ecosystem and their structure and components.
2. Relate and discuss impact of environment and ecosystem on the better human health.
3. Explain about biodiversity and climate and recognize the existing situation.
4. Explain about healthy air, its component, pollution, existing situations and its prevention and control mechanisms.

5. Explain about wholesome water, its importance, pollution, existing situation and its prevention and control mechanisms.
6. Explain about solid waste, human excreta and their impact on human health and discuss management procedures.
7. List and describe common environmental problems and their solutions.

4. Course Contents

Unit 1: Introduction to Environment, Ecosystem and Environmental Health **14 hours**

1.1 Environment and health

- a. Concept of environment, dynamics of environment
- b. Component of environment (Atmosphere, Hydrosphere, Lithosphere, and Biosphere); and their relevant positive effects on health and adverse effects on diseases of human being
- c. Highlights of global environmental changes and their concern with public health practitioners
- d. Environmental ethics and need for following the ethics for human health

1.2 Ecology, ecosystem, and health

- a. Meaning of ecology and ecosystem
- b. Structure of ecosystem: Abiotic and biotic components and their significant role in ecosystem
- c. Basic types of ecosystem (Aquatic and Terrestrial ecosystem and their sub types)
- d. Biogeochemical cycle: water cycle, carbon cycle, nitrogen cycle and phosphorus cycle and their relation to human health
- e. Agro-ecosystem: Meaning and types of Agro-ecosystem, Links between Agro-ecosystem and human health
- f. Effects of ecosystem positively in human health and negatively leading to diseases
- g. Concept of approach, to ecosystem including agro-ecosystem, and traditional approach or practices to ecosystem to improve human health and prevent diseases

1.3 Biodiversity and health

- a. Concept of Biodiversity; Biodiversity and Ecosystem services

- b. State of Biodiversity in Nepal, Indigenous knowledge, health and biodiversity relationships
 - c. Biodiversity conservation in Nepal (In-situ and Ex-situ conservation with examples)
- 1.4 Climate and health
- a. Meaning of climate and weather
 - b. Greenhouse gases (GHGs)
 - c. Greenhouse effect, global warming and climate change
 - d. Climate change and its impact on human health (food insecurities, diseases etc)
 - e. Climate change scenario in Nepal
 - f. Mitigation of climate change
- 1.5 Overview of common environmental problems and there adverse effect on health in the context of Nepal (4hrs)
- a. Deforestation
 - b. Soil erosion
 - c. Landslides
 - d. River siltation
 - e. Flooding and drought
 - f. Desertification
 - g. Loss Biodiversity
- 1.6 International environmental convention and treaty: Kyoto protocol and recent convention
- 1.7 Practicable roles of public health professional in promoting good ecosystem for health, preventing and controlling risk factors that degrade ecosystem, protecting ecosystem through environmental health education, policy/regulatory intervention, infrastructural intervention, community organization, mobilization, participation for ecological management and managerial intervention
- 1.8 Introduction to environmental health
- a. Definition of environmental health
 - b. Environmental health as one of the crucial themes for public health work
 - c. Major components of environmental health: air, water, waste, noise, radiation

Unit 2: Air and Human Health

8 hours

- 2.1 Meaning and characteristics of healthy/pure air, including chemical components of healthy/pure air, quality of air and its measurement methods
- 2.2 Functions of healthy air in human body/health
- 2.3 Ways of maintaining healthy air at various settings such as home, schools, work places, community
- 2.4 Air pollution: Meaning and types of air pollution (outdoor, Indoor and transboundary air pollution)
- 2.5 Sources of air pollution: such as industry, vehicles, dusty roads, firewood kitchen,
- 2.6 Air pollutants: primary and secondary air pollutants; major types of air pollutants(CO, NO_x, SO₂, hydrocarbons, particulate matter (PM₁₀ and PM_{2.5});
- 2.7 Human behaviors affecting quality of air
- 2.8 Scenario of air pollution and air quality control mechanisms particularly in urban Nepal,
- 2.9 List of hazards and diseases due to exposure to polluted air
- 2.10 Measures for prevention and control of air pollution at various settings such as home, schools, work places, community
- 2.11 Nepal/s Sustainable Development Goal regarding carbon emission
- 2.12 Role of public health practitioner in maintaining healthy air, prevention and control of air pollution: educational role, policy/regulatory role, infrastructural building role, community organization, mobilization and participation role, managerial role

Unit 3: Water and Human Health

8 hours

- 3.1 Meaning and characteristics of wholesome water, water quality parameter including Nepal Drinking quality Standard
- 3.2 Functions of water in human body/health,
- 3.3 Ways of maintaining wholesome water in various settings such as home, schools, work places, community
- 3.4 Types of water resources, water supply system and water use behaviors in rural and urban communities,

- 3.5 Water pollution: Meaning, types (surface and ground water pollution and sources, point and non-point sources; water pollution parameters
- 3.6 Human behaviors attributing to water pollution or contamination
- 3.7 Testing of water to decide wholesome and polluted water: simple turbidity test, microbial test, chemical tests
- 3.8 Effects of water pollution on human health, including list of water related diseases (water borne, water washed, water based and water related vector borne diseases).
- 3.9 Measures for prevention of water pollution: At source, transportation, storage, consumption levels in rural and urban settings
- 3.10 Water purification measures: Small scale - domestic: boiling, chemical disinfection, filtration, SODIS); Large Scale measures: Slow and rapid sand filtration and advance method of water purification, water purification in emergency/disaster condition
- 3.11 Water campaign: availability and accessibility of pipe water: national target of providing safe water to public and current status
- 3.12 Nepal's water related Sustainable Development Goal and role of public health practitioner in prevention and control of water pollution: Educational role, policy/regulatory role, infrastructural building role, community organization, mobilization and participation role, managerial role

Unit 4: Solid Wastes and Human Health

9 hours

- 4.1 Introduction to solid waste
 - a. Meaning, types and sources of solid waste including hazardous waste
 - b. Overview of waste generating behavior of rural and urban people of different socio-economic strata
 - c. Effects of waste on human health including list of health hazards and waste related diseases
- 4.2 Solid waste handling and management
 - a. Solid waste content analysis and the principles of 3Rs (Reduction, reuse and recycling) principles of waste handling

- b. Waste reduction strategies at various settings, such as home, school, business houses, shops, industry, restaurant, farms
 - c. Waste reuse strategies at various settings, such as home, school, business houses, shops, industry, restaurant farms: Resource recovery from solid waste: composting, vermin-composting, pelletization, pyrolysis, energy (Biogas) recovery, waste hierarchy
 - d. Waste recycling strategies
- 4.3 Solid waste disposal strategies and management at various settings, such as home, school, business houses, shops, industry, restaurant farms: segregation, storage, collection, transportation, and final sanitary disposal including land filling
- 4.4 Solid waste management issues and programs in Nepal
- a. Controversies in dumping site
 - b. Scavenger's health
 - c. Waste in water and on the road
 - d. The culture of lavish packing
 - e. Buy-use-throw away culture particularly in the urban areas
 - f. Waste and trekking business
 - g. The cleanest city campaign
- 4.5 Role of public health practitioner in prevention and control of waste generation and management: Advocacy role, educational role, empowerment role, policy/regulatory role, infrastructural building role, community organization, mobilization and participation role, managerial role

Unit 5: Human Excreta and Human Health

9 hours

- 5.1 Human excreta as public health issue and criteria for proper disposal of human excreta
- 5.2 Use of sanitary toilets: types of toilets (trench, pit, VIP, sulvasauchalaya, flushed) and methods or technology of their construction
- 5.3 Selection of appropriate type of toilet as per rural-urban strata, topography, types of disaster, socio-culture and economic characteristics of the community, availability of construction materials, cost
- 5.4 Ways of proper use of toilet

- 5.5 Overview of excreta disposal behavior that create health risk including situation of open defecation and characteristics of harmful excreta
- 5.6 Mode of exposure to harmful excreta (water, food, hand-mouth contact)
- 5.7 List of human excreta related diseases or infestation
- 5.8 Proper management of human excreta at various settings such as home, school, business houses, shops, open market, public places, industry, restaurant farms
- 5.9 Aims and strategies of open defecation free (ODF) areas in Nepal: Strength and limitations of this propagandist approach
- 5.10 Role of public health practitioner in promotion of proper excreta disposal behaviors including use of toilets, prevention and control of contamination of water, and foods from excreta: Advocacy role, educational role, empowerment role, policy/regulatory role, infrastructural building role, community organization, mobilization and participation role, managerial role

5. Teaching and Learning Activities

Unit	Methods/Media
1 - 5	Short lecture, group discussion, demonstration and presentation using media as appropriate, group assignment and presentation, model, field observation visit

6. Evaluation Scheme

	<u>weightage</u>
1. External (university Examination)	80%
2. Internal Assessment	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading materials

1. Miller, G.T. 2005, Living in the Environment-Principles, Connections, and Solutions, USA, Wadsworth
2. ADB, ICIMOD 2006, Environment Assessment of Nepal: Emerging Issues and Challenges
3. Asthana, D. K and Asthana M.: Environment: Problem and Solution
4. ICIMOD, MOEST/GON, UNEP, 2007, Nepal Biodiversity Resource Book- Protected Area, Ramsar Sites, and World Heritage sites
5. Kormondy, E.J. 1996, Concept of Ecology, Charles E. Merrill Publishing company, Bell and Howell company, Columbus, Ohio
6. Landon, M. 2006, Environment, Health & Sustainable Development, Tata MC Graw Hill Edition
7. Maharjan, K.K, 1014: Experimental methods on water quality analysis, Suprava publication
8. Miller, G.T. 2002, Living in the Environment-Principles, Connections, and Solutions, USA, Wadsworth
9. Odum E.P. 1996: Fundamentals of Ecology, Nataraj publishers
10. Park, K.: Preventive and Social Medicine
11. Wright and Nebel 2004, Environmental Science-Toward a sustainable Future
12. Khitoliya, R.K., Environmental Pollution, New Delhi: S. Chand & Company Pvt. Ltd. 2014.
13. WHO 2018, Air Pollution and Child Health, Prescribing Clean Air:www.who.org

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Epidemiology of Risk Factor and Communicable Diseases-I	
First Year	Second Semester	Course Code: BPH 102.6 ERFC-D-I
Credit Hours: 3Cr (48 hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

Communicable diseases are the frequently highlighted problems that the public health practitioners encounter in their professional practice. Diseases of the respiratory and intestinal infection – origin in mal-environment are mostly encountered. Therefore, the prospective students should develop knowledge of various aspects of such communicable diseases including etiologist and skills of preventing, controlling and encouraging suspected and identified people with diseases for early detection, treatment and compliance. This course helps students to develop such knowledge and skill. The course includes subject matters such as introduction to communicable disease and their risk factors particularly those of respiratory and intestinal disease, preventive and control measures, and programs of government to deal with the diseases.

3. Course Objectives

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

7. List the responsibility of public health practitioners regarding respiratory and intestinal diseases.
8. Describe the natural history of diseases including their general determinants.
9. Classify communicable diseases according to biological agents.
10. Define risk factor of disease and their preventive and control measures.
11. Explain the general principles of risk factors of diseases.
12. Describe causative agents, risk factors, mode of transmission, incubation period, sign and symptom, preventive, promotive and

control measures and public health intervention of respiratory and intestinal diseases.

13. Briefly highlight the government programs on respiratory and intestinal diseases.

4. Course Contents

Unit 1: Introduction to communicable disease and risk factors

8 hours

- 1.1 Definition of communicable disease and highlight of natural history of disease
- 1.2 Review of pathogenic micro-organisms and the ways they bring a state of diseases mentioned in unit 2 & 3 of this course.
- 1.3 Application of knowledge of microbiology in prevention and control of communicable diseases mentioned in unit 2 & 3 of this course
- 1.4 Definitions and natural history of disease:
 - a. Pre-pathogenic
 - b. Pathogenic
- 1.5 Determinants of communicable diseases
- 1.6 Classification of communicable diseases according to the type of related micro organisms
- 1.7 Meaning of risk factors and overview of common risk factors associated with communicable diseases (disease specific risk factor needs to be highlighted while dealing specific disease)
- 1.8 Distinction between risk factor prevention and prevention and control of diseases
- 1.9 General principles of prevention and control of infectious diseases and their risk factors
1. 10 Principle of non-existence of risk factors of communicable diseases
1. 11 Principle of total removal of infectious agent, reservoir, vector
1. 12 Principle of reducing infection and chances of exposure
1. 13 Highlights of public health interventions (educational, empowerment, policy and legal measures, community organization, infrastructural development, managerial intervention etc.) for prevention and control of risk factors and diseases

Unit 2: Causative agent, risk factors, mode of transmission, incubation period, signs and symptoms, general treatment, protective measures (immunization if applicable) early detection, preventive measures, control mechanisms, and public health intervention of the following respiratory infections (link with government program as appropriate):

- 20 hours

- | | | |
|-----------------------------|--------------|-----------------|
| a. Chickenpox | b. Measles | c. Mumps |
| d. Rubella | e. Influenza | f. Diphtheria |
| g. Whooping cough | h. ARI | i. Tuberculosis |
| j. Meningococcal Meningitis | | |

Unit 3: Causative agent, risk factors, mode of transmission, incubation period, signs and symptoms, general treatment, protective measures (immunization if applicable) early detection, preventive measures, control mechanisms, and public health intervention of the following Intestinal infections (link with government program as appropriate):

- 20 hours

- | | | |
|--------------------|--------------------|------------------|
| a. Cholera | b. Viral hepatitis | c. Poliomyelitis |
| d. Typhoid | e. Acutediarrhoea | |
| f. Food poisoning. | g. Amoebiasis | h. Ascariasis |
| i. Hookworm. | | |

5. Teaching-Learning Activities

	Method/Media
1- 3	Interactive lecture, Group discussion, Individual and group assignment followed by presentation, Interactive and participatory methods supported by audiovisual materials and equipment, document review

6. Evaluation Scheme

	<u>weightage</u>
1. External (University examination)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading materials

1. MoHP/DoHS (Nepal). Annual Report
2. Park K “Textbook of social and preventive medicine” Latest edition
3. DoHS, Epidemiology and Disease Control Division. National Recommended Case Definitions and Surveillance Standards.
4. Chin J. Control of communicable Disease Manual, an official Report of the American Public Health Association, 2000
5. Ghimire S, Dahal S. *A text book of Applied Epidemiology in Nepalese Context*, 2014
6. Nova Scotia, Public Health Department, *Communicable Disease Control Manual*, 2003, Canada
7. WHO, edited by M.A. Connolly, Communicable Disease Control in Emergencies, a Field Manual, 2005, https://www.who.int/diseasecontrol_emergencies/publications/9241546166
8. Jeremy Hawker, Norman Begg, Iain Blair, Ralf Reintjes, Julius Weinberg, *communicable-disease-control-handbook-2nd-edition*, 2005, Blackwell publishing, USA: <https://metronidazole.files.wordpress.com/2010/03/communicable-disease-control-handbook-2nd-ed-by-blackwell.pdf>
9. WHO 2009, Global Health Risks, Mortality and Burden of Disease Attributable to Selected Major Risks: https://www.who.int/healthinfo/global_burden_disease/GlobalHealthRisks_report_full.pdf
10. WHO 2001: WHO Recommended Strategies for the Prevention and Control of Communicable Disease: https://apps.who.int/iris/bitstream/handle/10665/67088/WHO_CDS_CPE_SMT_2001.13.pdf
11. Guidelines on Prevention of Communicable Diseases in Residential Care Homes for the Elderly, Last update: August 2019): https://www.chp.gov.hk/files/pdf/guidelines_on_prevention_of_communicable_diseases_in_rche_eng.pdf

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

Public Health Entomology and Rodentology-Lab/Field Based Practice

1. Preliminaries

Course Title	Public Health Entomology and Rodentology -Lab/Field Based Practice	
First Year	Second Semester	Course Code: BPH 102.1 PHER -L/FBP
Credit hours: 1Cr (32hrs)	Full Marks: 50	Pass Marks: 30

2. Course description

Lab and field based practice is a course designed to equip the students with practical skills required to do necessary lab demonstration. Students will observe the lab and field based demonstration, collection of specimen, preservation and maintains all these things in log or practical book under the direct supervision of concern teacher. Students will acquire practical knowledge and skill on entomology and rodentology.

3. Objective

Upon the successful completion of the course, students will able to identify, draw and label of different medically important vectors and rodents and find out the equipments, and chemicals used in lab, collect the specimen, prepare slides and investigates.

4. Laboratory and field based practical procedures

- Draw and label of different medically important vectors and rodents
- Preparation for field (Instrument, collection media)
- One day concurrent field for observation in vector borne control and research institutions and collection of different types of insects. Observe the preservation of different types of insects and rodents through different process

- Preparation of slide of medically important insects (any of two-Mosquito, sand fly, lice, bedbug etc)
- Preparation and submission of lab log book and field report to department

5. Maintain process of log or practical book

- Write practical specific detail description, process and draw and label different medically important vectors and rodents and equipment's used in lab manually
- All lab log practical book should be signed by respective teacher
- All student must bring practical log book and field report in final examination
- Final examination must be based on practical work

6. Evaluation Scheme Weightage (50 marks)

- | | |
|--|------------|
| a) Attendance in practical class and performance | - 10 Marks |
| b) Practical book/ log book | - 10 Marks |
| c) Final Practical Examination | - 30 Marks |

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

**Public Health Pharmacy, Pharmacology and Toxicology -
Lab/Field Based Practice**

1. Preliminaries

Course Title	Public Health Pharmacy, Pharmacology and Toxicology - Lab/Field Based Practice	
First Year	Second Semester	Course Code: BPH 102.2 PHPPT-L/FBP
Credit Hours: 1Cr (32hrs)	Full Marks: 50	Pass Marks: 30

2. Course Description

The laboratory and field based practice is a course designed to provide practical skills for the students to do necessary lab demonstration. Students will work in the lab and perform lab based demonstration. Similarly, students also do concurrent field visit HP/PHCs or hospitals for observing and understanding the quality assurance of essential drugs, vaccines and other pharmacy products. In this course, students will acquire practical knowledge and skill on pharmacy, pharmacology and toxicology related issues. Maximum 20 students could be sitting in one event in laboratory work. But number of students in each event in the lab depends upon the practical room and setting. Students maintain all the laboratory and field work in log or practical book under the direct supervision of concern teacher.

3. Objectives

With the successful completion of the course, students will able to perform proper handling of instruments in pharmacy and pharmacology lab, handling of prescription and simulated practices, prepare basic extemporaneous preparation of pharmaceutical product and management of poisoning (along with specific antidotes). Similarly, students will acquire the basic knowledge pharmaceutical industries management in

terms of pharmaceutical environment, drug storage, pollution management and drug formation process.

4. Laboratory and field based practice procedures

a) Lab based practical

- Indemnify and demonstrative proper handling of instruments in pharmacy and pharmacology lab.
- Demonstration of real objects of different types of pharmaceutical preparation like solid dosage forms (tablets, capsules & powders), oral liquid dosage forms (drops, syrup, suspensions, emulsion), parenterals products, aerosols, vaccines and sera, and topical preparations (ointments, cream and eye drops, ear drops, nasal drops). Mention to maintain/preserve quality of such products.
- Management of poisoning (along with specific antidotes) due to OP, paracetamol and barbiturates.
- Case studies in clinical toxicological and report writing: (a) metal poisoning, (b) pesticide poisoning.

b) Concurrent field visit:

- One day concurrent field visit in HP/PHCs or hospitals for observing and understanding the quality assurance of essential drugs; procurement and supply chain management system in healthcare facilities of government of Nepal; storage conditions of products and cold-chain maintenance of biological products and vaccines, separation of expired products from storage cupboards. Students explore the current challenges/constraints for regular supply, quality, cold-chain maintain for vaccines and availability of essential drugs vaccines and other pharmaceutical products.

5. Maintain process of log or practical book/ report

- Maintain process of log or practical book of laboratory work/write concurrent field visit report
- All practical log book/field report should be signed by respective teacher
- Each student must bring practical book/field report in the final practical examination
- Final examination is based on practical work

6. Evaluation Criteria

- | | |
|---|-----------|
| a) Attendance, discipline and performance | -10 marks |
| b) Practical log book/field visit report | -10 marks |
| c) Final Practical Examination | -30 marks |

weightage (50marks)

Public Health Pharmacy, Pharmacology and Toxicology - Lab/ Field Based Practice

First Aid and Safety - Lab Based Practice

1. Preliminaries

Course title	First Aid and Safety - Lab Based Practice	
First Year	Second Semester	Course Code: BPH 102.3 FAS-LBP
Credit hours: 1Cr (32hrs)	Full Marks: 50	Pass Marks: 30

2. Course Description

The practical course deals with basic skills of first aid and safety measures as appropriately applied to manage the risks/conditions/accidents associated with different setting that require first aid. The students will practice the basic skills of first aid under the guidance of the course facilitator. The individual student will maintain daily log book of the practical sessions. Upon completion of this course the students are expected to identify first aid and safety intervention measures of various risks/conditions/accidents (below mentioned) at settings: home, villages/ community/city, worksite, school/colleges/ universities, sport setting, and entertainment setting etc.and prepare a report on safety and first aid measures to be applied in these setting.

3. Objectives

Upon the successful completion of the course, students will be able to perform first aid as appropriate to the conditions/accidents/injuries.

4. Practical Sessions on:

a) Identification, collection and demonstrate of equipment/materials used for first aid of:

- Fall, Injury/trauma, fracture and dislocations, External bleeding/ Hemorrhage
- Bites: Common animal bites: dog bites, Insect bites, snake bites

b) Identification, collection and demonstrate of;

- Measurement of temperature

- Measurement of pulse
- Measurement of blood pressure
- Mouth to mouth respiration
- Simulate CPR
- Methods of use of different types of bandaging in different types injuries and fractures
- Use of tourniquet
- Use of splint
- Management of epistaxis
- Preparation of ORS

5. Maintain practical log/ report book

- Write practical specific detail description, process, draw (as appropriate) and label different techniques of bandaging, positioning, splinting, putting pressure to control bleeding, STOP, DROP and ROLL to control flame burn, cooling of burn wound/site, keeping the survivor warm, safe transfer of survivor, sites of vital sign measurement, preparation of ORS
- Write practical specific detail description, process, draw (as appropriate) and label the technique of Cardio-pulmonary resuscitation (CPR)
- Maintain individual logbook
- Practical Logbook/report should be signed by students and course facilitator and brought to the viva examination

6. Evaluation Scheme

Weightage (50 marks)

- | | |
|---|------------|
| a) Attendance, discipline, performance | - 10 marks |
| b) Evaluation of practical log book /report | - 10 marks |
| c) Final practical examination | - 30 marks |

Public Health Pharmacy, Pharmacology and Toxicology - Lab/Field Based Practice

Ecosystem and Environmental Health - Laboratory/ Field Based Practice

1. Preliminaries

Course Title	Ecosystem and Environmental Health - Laboratory/ Field Based Practice	
First Year	Second Semester	Course Code: BPH 102.5 EEH-L/FBP
Credit Hours: 1Cr (32hrs)	Full Marks: 50	Pass Marks: 30

2. Course description

The practical course is to develop practical skills for the students to do necessary lab demonstration. Students will observe the lab and field based observation, collection of information, management and maintains all these things in log or practical book under the direct supervision of concern teacher and public health department. Students will acquire practical knowledge and skill on environment health and ecosystem. Similarly, students do concurrent field visit of water purification in large scale and landfill site.

3. Objective

Upon the successful completion of the course, students will be able to demonstrate water purification, lab test of water quality, test of hardness and softness of water, use of alum and Bleaching Powder, BOD measurement of water and noise measurement. Similarly, directly observe rapid sand filtration/slow sand filtration and acquired knowledge for water purification process at large scale. Students also directly observe landfill site and acquire knowledge on solid waste management process.

4. Laboratory and field based practical procedures

Content	Examples
- Demonstration of water purification in small scale in laboratory setting	- SODIS, Filtration
-Lab test of water quality by using reagent (Turbidity, inorganic, organic pollutant, coliform)	- Turbidity (Turbidity meter) - Total Dissolved Solids(TDS meter) - Chloride (Argentometric method) - Dissolved Oxygen (Winkler Iodometric method) - pH (pH Meter) - Coliform (Coliform test kit/MPN method)
- Test of hardness and softness of water	- Total Hardness (EDTA- method)
- Mechanism of Alum, chlorine in water purification	- Use of alum and Bleaching powder/ chlorine solution in raw water/tank/well - Free residual Chlorine (FRC)
- BOD measurement of water	- BOD measurement (BOD-5 days incubation)
a) Concurrent observation field visit of water purification in large scale	- Rapid sand filtration/Slow sand filtration
b) Concurrent field visit of dumping site (study of waste management process and environmental effects)	- Landfill site

5. Maintain process of log/practical book/report

- Maintain process of log/practical book of laboratory work
- Students need to write individual report of field visit and submit to concerned teacher
- All practical book and report should be signed by respective teacher
- Each student must bring practical book and report in final practical examination
- Final examination must be based on practical work and concurrent field visit

6. Evaluation Criteria

Weightage (50 marks)

- | | |
|--|------------|
| a) Attendance, discipline and performance | - 15 marks |
| b) Practical book/log book/concurrent field visit report | - 5 marks |
| c) Final Practical Examination with viva | - 30 marks |

**Second Year
Third Semester**

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Public Health Core Actions	
Second Year	Third Semester	Course Code: BPH 203.1 PHCA
Credit Hours: 3Cr (48 hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

One of the domains of public health is the core actions that the public health practitioners have to carry out on health and related themes. The core actions include promoting health, preventing health risk factor, injuries and diseases, protecting health through immune system, controlling spread of health risk factors and diseases, and encouraging early detection, treatment and compliance to treatment (P3CE). These core actions are the demarking line to distinguish public health practitioners from other categories of practitioners. Therefore, this course is designed to provide students adequate knowledge and skills of carrying out the P3CE actions in their professional career backed by favorable attitudes towards the actions. The practitioners are also required to take forward this action through single or combinations of interventions such as health education, health promotion, policy-regulatory interventions, infrastural interventions and managerial interventions. The course includes concept of the five core public health actions including their respective components and way to handle these components. Highlights of public health interventions are also included in the content sections.

3. Course Objectives

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

1. Define public health core actions as one of the three domains of public health
2. Define and describe promoting and protecting health, prevention of health risk factors, sickness/diseases, controlling epidemics, and encouraging for early detection, treatment and compliance as public health core actions

3. Explain ways of taking promoting and protecting health, prevention of health risk factors, sickness/diseases, controlling epidemics, and encouraging for early detection, treatment and compliance into action (where, what and how?)
4. Describe the results, indicators and effectiveness assessment of promoting and protecting health, prevention of health risk factors, sickness/diseases, controlling epidemics, and encouraging for early detection, treatment and compliance actions
5. Overview of national activities for promoting and protecting health, prevention of health risk factors, sickness/diseases, controlling epidemics, and encouraging for early detection, treatment and compliance
6. Appreciate the contribution that the various components of public health core actions can give to improve and maintain health of the public
7. List and describe various public health interventions
8. Appraise the national efforts on strengthening the various public health actions and interventions

4. Course Contents

Unit 1: Concept of public health core actions 4 hours

- 1.1 Overview of the three domains of public health (thematic, core actions, and interventions) as per the definition of public health (Referred to Course *Introduction to Public Health*, 1st Semester)
- 1.2 Highlight of public health core actions as one of the three domains and major tasks of public health practitioners
- 1.3 Definition of public health core action
- 1.4 Highlights of the following public health core actions (P3CE) derived from definition of public health
 - a. Promoting health
 - b. Preventing health risk factor, injuries and diseases
 - c. Protecting health through immune system
 - d. Controlling spread of health risk factors and diseases
 - e. Encouraging early detection, treatment and compliance to treatment

- 1.5 Importance of public health interventions (educational empowerment, policy-regulatory, infrastructural, managerial) in P3CE

Unit 2: Promoting health

8 hours

- 2.1 Definition and purpose of promoting (promotive) health from public health perspective
- 2.2 Areas or measures of health promoting actions and mechanisms they help promote health of the people (examples): form normal state to optimal level
 - a. Adequate and proper diet (nutrition)
 - b. Adequate and proper bodily movements
 - c. Non-use of tobacco and excessive alcohol
 - d. Personal hygiene
 - e. Living in healthy environment (such as healthy air, wholesome water, healthy housing, proper waste handling)
 - f. Positive thinking
- 2.3 Importance of promoting health of the people
- 2.4 Taking health promoting measures into action (where, what and how?)
- 2.5 Results, indicators and effectiveness assessment of health-promoting actions
- 2.6 Overview of national slogan and activities for promoting health

Unit 3: Preventing health risk factors, accidents/injuries and diseases from public health perspective

9 hours

- 3.1 Definitions of prevention and understanding it as one of the public health core acts
- 3.2 General principles of prevention:
 - a. Principles of non-existing of risk factors
 - b. Principles of removal of causative agents
 - c. Principles of creating barriers to exposure to risks factors and agents
- 3.3 Levels of prevention
 - a. Levels in the context of public health
 - Risk factor level prevention (Prevention of factors leading to the health risk factor)
 - Disease/illness and injury level prevention (prevention of risk factors leading to disease/illness and injury)

- b. Conventional levels of prevention (primordial, primary, secondary and tertiary)
- 3.4 Areas or measures of illness/disease and injury prevention actions and mechanisms they help promote health of the people (examples):
 - Prevention of causes related to:***
 - a. Consumption of alcohol, tobacco and drug abuses
 - b. Consumption of too salty, fatty and sugary foods
 - c. Habit of sedentary living
 - d. Practice of improper waste disposal practices
 - e. Mode of air, water, and living space pollutions
 - f. Consumption of unsafe (contaminated and adulterated) foods
 - g. Accidents
 - h. Practice of violence
- 3.5 Importance of preventing health risk factors, accident/injuries and illness/disease
- 3.6 Taking health risk factors, illness/disease and accident/injury prevention measures into action (where, what and how?)
- 3.7 Results, indicators and effectiveness assessment of health risk factors, illness/disease and accident/injury prevention actions
- 3.8 Overview of national activities for risk factors, illness/disease and accident/injury prevention

Unit 4: Protecting health from public health perspective 6 hours

- 4.1 Comparative definitions of health protection
 - a. Health protection as protecting body from harms by using protective equipment
 - b. Health protection as avoiding development of a state of disease even after exposure to biological causative agents through developing, strengthening or enhancing immunity in the human host
- 4.2 Types of health protection:
 - a. Bio-chemical: Immunization, Nutrients (***Detail: Refer to microbiology, parasitology, bacteriology, virology and immunology courses***)
 - b. Mechanical: Workplace safety measures. Use of personal protection equipment (PPE)
- 4.3 Importance of health protection

- 4.4 Taking health protection measures into action (where, what and how?)
- 4.5 Results, indicators and effectiveness assessment of health risk factors, illness/disease and accident/injury prevention actions
- 4.6 Overview of national activities for protecting health, including immunization program

Unit 5: Controlling spread of health risk factors and diseases (including epidemics) from public health perspective 6 hours

- 5.1 Definitions and importance of controlling spread (epidemics) of health risk factors including anti-health life styles and diseases
- 5.2 Importance of controlling spread of health risk factors including anti-health life styles and diseases
- 5.3 Measures of controlling spread of health risk factors and diseases frequently occurred in the county and abroad
 - a. Isolation of healthy people
 - b. Quarantine: sick/diseased persons and contaminated materials and commodities
 - c. Disinfection: environmental measures
- 5.4 Taking health risk factors and illness/disease control measures into action (where, what and how?)
- 5.5 Results, indicators and effectiveness assessment of control of spread of health risk factors and illness/disease
- 5.6 Overview of national activities for risk factors and illness/disease control including epidemic

Unit 6: Encouraging for early detection, early treatment and compliance to treatment of illness/disease 6 hours

- 6.1 Concept of encouraging early detection, early treatment of illness/disease and compliance to treatment
- 6.2 Areas for encouraging early detection, early treatment of illness/disease and compliance to treatment (examples)
 - a. Non-clinical screening for early detection
 - Meaning and types of screening
 - Organization of screening program
 - Referral to diagnostic centers/facilities for conformation
 - b. Referral from community to medical care facilities for early treatment

- c. Domestic/community follow up of patients for compliance to treatment
- 6.3 Importance of encouragement for early detection, early treatment and compliance
- 6.4 Taking early detection, early treatment of illness/disease and compliance to treatment action (where, what and how?)
- 6.5 Results, indicators and effectiveness assessment of encouragement for early detection, early treatment of illness/disease and compliance to treatment
- 6.6 Overview of national activities on early screening/detection, early treatment of illness/disease and compliance to treatment

Unit 7: Public health interventions for taking the core actions

9 hours

- 7.1 Interventions as one of the three domains of public health and their relation with the core actions
- 7.2 Meaning, features and components of the following public health interventions
 - a. Community health education (*Details in the courses: "Introduction to Health Education" (5th Semester) and "Applied Health Education and Promotion" (6th Semester)*)
 - b. Health promotion as an enabling or empowering process: (*Details in the course: "Applied Health Education and Promotion" (6th Semester)*)
 - c. Policy- regulatory (*Details in the course: Public Health Policy, Regulations, and Program Planning" 6th Semester)*)
 - d. Infrastructure development (*Details in the course"Public Health Infrastruc Building and Disaster Management" 5th Semester)*)
 - e. Community organization, participation and action (*Details in the course "Community Organization, Participation and Action" 5th Semester)*)
 - f. Managerial interventions (*Details are in public health management courses in 6th, 7th, and 8th semesters)*)
- 7.3 Need for planning and implementing public health interventions for core actions on health and related themes

5. Teaching-Learning Activities

Unit	Method
1 - 7	Interactive lecture, and group discussion, individual and group assignment followed by presentation, practical problem-solving sessions, document review

6. Evaluation Scheme

Weightage

1. External (University examination)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading materials

1. Detels, Roger, James McEwen, Robert Beaglehole, Heizo Tanaka, *Oxford Textbook of Public Health (4th ed.)* Oxford University Press, Oxford 2004.
2. Park, K. *Park's Textbook of Preventive and Social Medicine*. Jabalpur: BanarasidasBhanot Publishers, (recent edition)...
3. Suryakantha, AH. *Community Medicine*, New Delhi: Jaypee Brothers Medical Publishers, 2014.
4. Department of Health Services. *Annual Report (Recent Issue)*, Kathmandu: Ministry of Health
5. Elena Andresen, Erin Defries Bouldin, *Public Health Foundations, concept and practice*, 2010, published by Jossey-Bass, San francisco, CA
6. Virginia Berridge, Martin Gorsky & Alex Mold; *Public Health in History*, 2011, Open University Press
7. Lloid F. Novick, Glen P. Mays. *Public Health Administration, Principle for population based Management*, AN Aspen Publication, USA 2001.
8. Ramjee Prasad Pathak, Ratna Kumar Giri, *A textbook of public health and primary health care development, First edition, 2007*, Vidyarthi Prakashan (p) Ltd, Kathmandu,

9. Detels, Roger, James McEwen, Walter W. Holland, Gilbert S. Omenn, *Oxford Textbook of Public Health, the Scope of Public Health*, 3rd Edition, volume 1,
10. Detels, Roger, James McEwen, Walter W. Holland, Gilbert S. Omenn, *Oxford Textbook of Public Health, the Method of Public Health*, 3rd Edition, volume 2,
11. Detels, Roger, James McEwen, Walter W. Holland, Gilbert S. Omenn, *Oxford Textbook of Public Health, the Practice of Public Health*, 3rd Edition, volume 3,

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Epidemiology of Communicable Diseases – II	
Second Year	Third Semester	Course Code: BPH 203.2 ECD - II
Credit Hours: 3Cr (48 hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

Communicable diseases are the problems that the public health practitioners most frequently encounter in their professional practice. Diseases of arthropod and zoonotic infection-origin are mostly encountered. Therefore, the prospective students should develop knowledge of various aspects of such communicable diseases including etiologies and skills of preventing, controlling and encouraging suspected and identified people with diseases for early detection, treatment and compliance. This course helps the students to develop such knowledge and skills. The course includes subject matters such as introduction to communicable disease and their risk factors particularly those of arthropod and zoonotic diseases, preventive and control measures, and intervention programs of government to deal with the diseases.

3. Course Objectives

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

1. List the responsibilities of public health practitioners regarding arthropod and zoonotic diseases.
2. Describe the natural history of arthropod and zoonotic diseases including their general determinants
3. Classify arthropod and zoonotic diseases according to biological agents.
4. Define risk factor of arthropod and zoonotic diseases and their preventive and control measures.

5. Explain the general principles of risk factors of arthropod and zoonotic diseases.
6. Describe causative agents, risk factors, mode of transmission, incubation period, sign and symptoms, preventive, promotive and control measures and public health interventions of arthropod and zoonotic diseases.
7. Briefly highlight the government intervention programs on arthropod and zoonotic diseases.

4. Course Contents

Unit 1: Introduction to communicable disease 6 hours

- 1.1 Review of concept of entomology and rodentology and their application in understanding arthropod-borne and zoonotic diseases
- 1.2 Definitions arthropod-borne and zoonotic diseases
- 1.3 Classification of arthropod-borne and zoonotic diseases
- 1.4 Meaning of risk factors to arthropod-borne and zoonotic diseases

Unit 2: Arthropod-borne diseases 12 hours

- 2.1 Definitions arthropod-borne diseases
- 2.2 Classification of arthropod-borne diseases
- 2.3 Meaning and types of risk factors leading to arthropod-borne diseases
- 2.4 Causative agent, specific risk factors, mode of transmission, early detection, incubation period, signs and symptoms, general treatment, protective measures (immunization if applicable), preventive measures, control mechanisms, current situation and government program as appropriate of the following arthropod-borne diseases:
 - a. Malaria
 - b. Dengue
 - c. Kala-zar
 - d. Lymphatic filariasis
- 2.5 Highlight of relevant public health interventions (educational, empowerment, policy-regulation, infrastructure building, community organization, participation and managerial) to deal with arthropod-borne diseases

Unit 3: Zoonotic diseases 20 hours

- 3.1 Definitions arthropod-borne diseases
- 3.2 Classification of arthropod-borne diseases
- 3.3 Meaning and types of risk factors leading to arthropod borne diseases

Reading materials

1. Ministry of Health. Insect-borne Disease management 2073 (Nepali). Hetauda: insect-borne Disease Rresearch and Training Center 2073 BS
2. MoHP/DoHS (Nepal). Annual Report
3. Park K “Textbook of social and preventive medicine” Latest edition
4. DoHS, Epidemiology and Disease Control Division. National Recommended Case Definitions and Surveillance Standards.
5. Chin J. Control of communicable Disease Manual, an official Report of the American Public Health Association, 2000
6. Ghimire S, Dahal S. A text book of Applied Epidemiology in Nepalese Context,2014
7. WHO, edited by M.A. Connolly, Communicable Disease Control in Emergencies, a Field Manual, 2005,
https://www.who.int/diseasecontrol_emergencies/publications/9241546166
8. Jeremy Hawker, Norman Begg, Iain Blair, Ralf Reintjes, Julius Weinberg, communicable-disease-control-handbook-2nd-edition, 2005, Blackwell publishing,
USA:<https://metronidazole.files.wordpress.com/2010/03/communicable-disease-control-handbook-2nd-ed-by-blackwell.pdf>
9. WHO 2009, Global Health Risks, Mortality and Burden of Disease Attributable to Selected Major Risks:https://www.who.int/healthinfo/global_burden_disease/GlobalHealthRisks_report_full.pdf
10. WHO 2001: WHO Recommended Strategies for the Prevention and Control of Communicable Disease:https://apps.who.int/iris/bitstream/handle/10665/67088/WHO_CDS_CPE_SMT_2001.13.pdf
11. Guidelines on Prevention of Communicable Diseases in Residential Care Homes for the Elderly, Last update: August 2019):
https://www.chp.gov.hk/files/pdf/guidelines_on_prevention_of_communicable_diseases_in_rche_eng.pdf

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Family Health - I	
Second Year	Third Semester	Course Code: BPH 203.3 FH-I
Credit hours: 3Cr (48 hrs)	Full marks: 100	Pass marks: 50

2. Course Description

Family health is one of the major components of public health. Public health deals with healthy individual, family, community and the whole population in order to maintain and promote health and well being. A family consists of children, adults and elderly and both male and female. Maternal and child health is one of the fundamental components of family health as there is a high rate of maternal mortality and morbidity as well as child mortality and morbidity in developing world including Nepal. Healthy population is the most important indicator of overall development and prosperity of any country. Therefore, this course is designed to impart the basic knowledge and understanding on family health, maternal and child health which will provide a better perspective in managing public health care system to promote health of family.

3. Course Objectives

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

1. Describe concept and importance of family health for health and well-being of family
2. Explain the role of family members for promoting health of family
3. Explain the problems and solutions of maternal and child health
4. Describe the social issues and right of child

4. Course Contents

Unit 1: Concept of family health

6 hours

- 1.1 Concept of family, functions of family for health promotion

- 1.2 Concept, scope, importance and indicators of family health
- 1.3 Importance of family in health promotion, disease prevention and restoration of health
- 1.4 Functional and dysfunctional family and its effect on health
- 1.5 Factors affecting family health and response to these factors in the family and community levels

Unit 2: Maternal health

1 2 hours

- 2.1 Concept of maternal and women's health
- 2.2 Overview of maternal and women's health status in the world and in Nepal
- 2.3 Measures to promote maternal and women's health
- 2.4 Factors promoting and affecting maternal and women's health
- 2.5 Direct and indirect causes of maternal mortality and morbidity with reference to Nepal
- 2.6 Measures to prevent maternal and women's health problems including specific illnesses and diseases (morbidity and mortality)
- 2.7 Measure to protect health of mothers and women (health protection through immunization and intake of immunity enhancing micro nutrients)
- 2.8 Importance of encouraging mother and women for early detection, treatment of illness and diseases
- 2.9 Overview of government and non-government organization's effort regarding maternal and women's health such as educational, empowerment, policy-legislation, infrastructure building

Unit 3: Safe motherhood

8 hours

- 3.1 Safe motherhood and its components and measure to promote safe motherhood
- 3.2 Components of Maternal Health Care (ANC, INC, PNC)
- 3.3 Concept and provision of PMTCT in Nepal
- 3.4 Concept, functions and implementation of birthing centers in Nepal
- 3.5 Concept and legal provision of abortion in Nepal
- 3.6 Process of maternal and perinatal death review

- 3.7 Objectives, strategy, and challenges of *AamaSurakshyaKaryakram* in Nepal
- 3.8 Current national safe motherhood policy, strategy, plan and program in Nepal

Unit 4: Child health

16 hours

- 4.1 Major terminologies related to child health: Neonate, still birth, birth weight, low birth weight, under five (U5) children
- 4.2 Concept of neonatal, infant and child health
- 4.3 Status of neonatal, infant and child health in the world and in Nepal
- 4.4 Factors affecting neonatal and child health
- 4.5 Causes of neonatal, infants and child morbidity and mortality in Nepal
- 4.6 Mother's health and its relation with neonatal and child health
- 4.7 Measures to prevent neonatal, infants and child morbidity and mortality
- 4.8 Measure to protect health neonatal, infants and child morbidity and mortality through immunization and intake of immunity enhancing micro nutrients
 - a. National immunization programme
 - b. Child nutrition programme
- 4.9 Major programs and strategies for child survival in Nepal
 - a. CBIMNCI
 - b. Neonatal Health Strategy 2004, Nepal
- 4.10 Importance of encouraging mother and women for early detection, treatment of neonatal, infants and childhood illness and diseases
- 4.11 Concept, importance and methods of child health surveillance
- 4.13 Concept, history and present situation of Baby Friendly Hospital Initiative (BFHI) in Nepal
- 4.13 UN convention on the Rights of Child (World Summit for Children 1990 A.D.), concern of child in Constitution of Nepal, 2015 and Nepalese law
- 4.14 Overview of government and non-government organization's effort regarding child health such as

educational, empowerment, policy-legislation and infrastructure building

Unit 5: Social problems of child

6 hours

- 5.1 Child abuse, child prostitution, child trafficking, street children, child labour,
- 5.2 Substance abuse among children in Nepal (drug, alcohol, tobacco)
- 5.3 Major causes of accidents and injuries among children in Nepal with its prevention
- 5.4 Effect of conflicts/conflicting situations, urbanization, disaster and refugee situation on children and their effects on the health of children
- 5.5 Legal issues regarding handicapped children in Nepal

5. Teaching learning activities

Unit	Methods/media
1-5	Illustrative lecture, interactive and participatory T/L methods support by audiovisual materials, individual presentation by students, document review, field visit, documentary show

6. Evaluation scheme

Weightage

- 1. External (University examination) 80%
- 2. Internal 20%
 - a. Written examination (two examinations) 50%
 - b. Class attendance 25%
 - c. Class presentation and home assignment 25%

Reading materials

- 1. CEWI publications: a state of the rights of children in Nepal. Comprehensive family planning (COFP) course NHIC/Nepal.
- 2. Freidman MM “ Family-Theory and Practices” 3rd edition
- 3. JE Park and K. park, A textbook of preventive and social medicine.

4. JHPIEGO/Nepal, reference manual certificate nursing program, community health nursing II, family planning unit.
5. Misra BD, Art Introduction to the study of population “South Asia Publishers Pvt. Ltd. New Delhi 2nd edition 1991.
6. “National maternity care guidelines for Nepal” HMGUNICEF.
7. UNICEF/Nepal, Children and Women in Nepal – A situation analysis 1996.
8. Wallace HW, Giri K. “Health care of women and children in developing countries 1990.
9. Ministry of Health, Nepal, Neonatal Health Policy of Nepal 2004
10. Ajit Pradhan et al, " Nepal Maternal Mortality and Morbidity Study 2008/2009, Family Health Division, Government of Nepal, Kathmandu, Nepal
11. MoHP, Nepal. Annual Report, Department of Health Services (different years)
12. Ministry of Health and Population Nepal, New ERA, and Macro International Inc. Nepal Demographic and Health Survey (NDHS); 2006, 2011, 2016.
13. The state of world children 2009, Chapter-4, full text of the convention of the right of children 1989.
14. UNICEF report, 1990. World declaration on survival, protection and development of children, agreed to the world summit for children, September 1990
15. UNICEF, WHO 2009. Baby friendly hospital initiative: revised, updated and expanded for integrated care, section-1, background and implementation

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

Applied Public Health Nutrition

1. Preliminaries

Course Title	Applied Public Health Nutrition	
Second Year	Third Semester	Course Code: BPH 203.4 - APHN
Credit Hours: 3Cr (48 hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

After clarifying concept of basic food and nutrition, this course offers settings for its application in public health sector. Public health practitioner will work in a health system and organizations, it is necessary to have information and develop necessary skills to measure nutrition related problems, analyze and appraise nutrition intervention, programs and policies related with nutrition and finally plan and implement interventions to promote health, prevent nutrition related disorders, protect health, control epidemics of nutritional disorders and encourage for early detection, treatment of nutritional problems and encourage them to compliance on treatment. Therefore, this course is designed to equip students with all these necessary knowledge and skills to implement these public health core actions.

3. Course Objectives

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

1. Explain the concept and importance of public health nutrition and identify and conduct assessment of nutritional status through using various methods and interpret result.
2. Explain and illustrate about various aspects of food security and can analyze this knowledge for the promotion of health and prevention of nutrition related disorders.
3. Recognize, analyze the nutritional interventions, policies, acts, plans and current nutrition programs and practices of Nepal.
4. Appraise current and emerging public health nutrition challenges and can plan and implement solutions

4. Course Contents

Unit 1: Nutritional Status, problems and its assessment 14 hours

- 1.1 Concept and definition of nutritional status, determinants factors, malnutrition and its types, causes and consequences of malnutrition (UNICEF Model of Conceptual framework of malnutrition)
- 1.2 Assessment of nutritional status,
 - a. Meaning of nutrition assessment and its importance in public health actions and interventions
 - b. Methods of nutritional assessment: Direct method (anthropometric, biochemical, clinical and dietary intake assessment) and Indirect method
 - c. Nutritional status assessment indicators
- 1.3 Situation of nutritional status in Nepal and global context

Unit 2: Socio economic, ecological, cultural aspect of food and nutrition 2 hours

- 2.1 Concepts of food beliefs, values and food taboos existing in Nepal
- 2.2 Trans ecology, culture and its impact on food practices and behavior
- 2.3 Socio-economic and cultural practices of food production, distribution and consumption according to ecological region and their impact on nutritional health
- 2.4 Identification, storing and preparation , cooking and consumption practices of nutrient rich indigenous foods and their inputs to health
- 2.5 Socio cultural, economic and ecological consideration in prescribing balanced meals.

Unit 3: Overview of nutrition policies and strategies, programs, plans and initiatives with special reference to Nepal 12 hours

- 3.1 Current nutrition policies, plans and strategies of Nepal 0
 - a. National Nutrition Policy and Strategy
 - b. Multi-Sectoral nutrition plan (MSNP)
 - c. Current national nutrition programs: its overall goal and specific objective, listing of program and their brief description along with their strategies
- 3.1 Nation-wide programs

- a. Growth monitoring and counseling
 - b. Prevention and control of iron deficiency anaemia
 - c. Prevention, control and treatment of vitamin A deficiency
 - d. Prevention of iodine deficiency disorders
 - e. Control of parasitic infestation by deworming for
 - f. restoring nutritional status
 - g. Mandatory flour fortification in large roller mills
- 3.2 Scale up Programs
- a. Maternal, infant and young children nutrition program
 - b. Integrated management of acute malnutrition
 - c. Micronutrient power (MNP) distribution linked with IYCF
 - d. School health and nutrition program
 - e. Vitamin A supplementation to address the low coverage in 6-11 months olds
- 3.3 Nutrition survey and surveillance in Nepal
- 3.4 Overview of Current global movement and initiative in nutrition: Scaling Up Nutrition (SUN) and REACHing for the SUN (REACH) Initiatives, Golden 1000 days
- 3.5 Food and Nutrition in humanitarian emergencies

Unit 4: Introduction to nutritional interventions with reference to Nepal **14 hours**

- 4.1 Meaning of nutritional intervention and its purpose
- 4.2 Need for intersectoral coordination for nutritional interventions
- 4.3 Selling wise approach to nutritional intervention (home,school,work place)
- 4.4 Various types of nutrition intervention
 - a. Behavioral Interventions through nutrition education and counseling
 - Breastfeeding: Exclusive breast feeding and its importance
 - Complementary Feeding
 - Feeding of Low Birth Weight babies
 - HIV infected babies and their feeding
 - Discouraging “junk-food” culture
 - b. Food fortification:
 - Home fortification with Micro Nutrient Powder
 - Iodization of salt

- Flour fortification with Iron
 - Vitamin A fortification and others
 - Bio fortification of staple foods
- c. Health related actions
- Deworming
 - Insecticide treated nets to reduce the risk of malaria in pregnant women
 - Optimal timing of cord clamping for the prevention of iron deficiency anemia in infants
 - Water, sanitation and hygiene to prevent diarrhea
- d. Regulatory:
- Marketing: reducing the impact of marketing of food and non-alcoholic beverages on children
 - Breastfeeding: regulation of marketing breast milk substitute
- e. Situational health action: deworming, iron and folic acid supplementation
- a. Supplementation: concept on food supplementation, overview of food supplementation practices of Nepal: Iron and folic acid, iodine, vitamin A, zinc and other micronutrients

Unit 5: Food security for nutrition,

6 hours

- 5.1 Meaning, definition and dimension of food security
- 5.2 Role of agriculture and live stock culture in food security and nutrition
- 5.3 Poverty, over population and malnutrition cycle
- 5.4 Effects of nutrition on economic productivity, health and survival
- 5.5 Food security information system
- 5.6 Indicators for assessing food security status
- 5.7 Factors determining food security and its status in Nepal
- 5.8 Policy and strategy measures for the promotion of food security

5. Teaching Learning Methods

Unit	Methods/media
1-5	Classroom lectures, Demonstration, Group work and presentation, Video show, documentary show, field visit and information collection, document review

6. Evaluation Scheme	<u>Weightage</u>
1. External (University examination)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading materials

1. Adhikari RK, Kranz Miriam. *Child Nutrition and Health*
2. Bamji, MS, Rao, NP, Reddy V. *Textbook of Human Nutrition*, Oxford & IBH Publishing Co.Pvt. Ltd.
3. Felicity SK and Aurgess A. *Nutrition in Developing Countries*. Oxford University Press
4. DOHS.(2074/75).*Annual Report*, Kathmandu : GOV, MOH (recent)
5. Park, K. *Text book of Social and preventive medicine*
6. National Nutritional Policy and Strategy, DoHS
7. WHO, E-library of evidence for nutrition actions (eLENA). Nutrition intervention. Retrieved from:
<https://www.who.int/elena/intervention/en/>
8. MoH/New ERA/ORC Macro. *Nepal Demographic Health Survey*, 2016
9. Shrestha, JM. Food, *Nutrition & Dietetics* (2015)
10. Swaminathan M. *Advanced Textbook on Food & Nutrition*, Volume II. India
11. Multi-sectoral nutrition Plan, NPC
12. Gibney, MJ, Margetts, BM and Arab, L. *Public Health Nutrition*. Blackwell Publishing.
13. WHO, Diet, Nutrition and the Prevention of Chronic Diseases

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Environmental and Occupational Health	
Second Year	Third Semester	Course Code: BPH 203.5 EOH
Credit Hours: 3Cr (48 hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

There is an inseparable relationship between human and environment. Human depends on environment for their survival and health. Better environmental condition gives good health and longevity therefore this course will give knowledge and understanding about better environmental conditions including in occupational settings and their impact on better human health. This course will also provide perspective about environmental pollution and hazards brought about by human behavior and activities and make public health practitioners understand their role on environmental and occupational education, health promotion, policy and regulatory, infrastructural, community organization, mobilization, participation or action and managerial role for promoting good environmental condition, preventing risk factors and diseases caused by environmental degradation and ergonomics, controlling occurrence of environmental related diseases occupational accidents and encouraging people for early detection, treatment and compliance to treatment including first aid for occupational accidents.

3. Course Objectives

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

1. Explain the relationship between sound and human health.
2. Define noise and its effects on health and illness.
3. Identify and describe public health measures to prevent and control noise pollution.
4. Explain the relationship between soil and human health.
5. Define soil pollution and its effects on health and illness.

6. Identify and describe public health measures to prevent and control soil pollution.
7. Define radiation, radiation hazard and its effect on health and illness.
8. Define environmental hazards, describe ways of risk analysis.
9. List ways of prevention and control of environmental risks.
10. Highlight the features of WASH program in Nepal.
11. Define climate change, its effects on health and illness.
12. Describe mitigation of effects of climate change.
13. Define occupational health and features of health-promoting occupational setting.
14. List and explain occupational hazard, including health and disease effects.
15. Describe public health measures against occupational hazards and requirements for occupational safety.

4. Course contents.

Unit 1: Sound in environment and health

5 hours

- 1.1 Ordinary and scientific definitions of sound
- 1.2 Sources of sound in the environment including types of health friendly sounds (such as breeze sound, stream sound, chirping-humming of birds)
- 1.3 Man made healthy friendly sounds (such as soft music, “Om Chant”) and their importance in maintaining mental health
- 1.4 Maintenance and promotion of health friendly sounds
- 1.5 Level of desirable sound frequency and intensity (whispering, normal conversation, normal music)
- 1.6 Meaning of noise and noise level values for traffic (vehicles and their horn; airplane, heavy metal music, shouting, machines, lightening, party-music, threshold of pain)
- 1.7 Hazards or effects of noise pollution and their types (hearing sensation, air drum effect, irritations)
- 1.8 Preventive and control measures of noise pollution: such as educational, policy-regulatory, infrastructural, managerial)

Unit 2: Soil and health

4 hours

- 2.1 Highlights of public health concern of soil in agro-based society
- 2.2 Soil in environment and characteristics of healthy soil

- 2.3 Contribution of soil to human health through food production chain, construction of temperature-balancing house with soil,
- 2.4 Ways to conserve or maintain healthy soil
- 2.5 Soil pollution: meaning, ways of soil pollution
- 2.6 Adverse effects of polluted soil in health and illness
- 2.7 Preventive measures against soil pollution

Unit 3: Radiation in environment and health **4 hours**

- 3.1 Meaning of radiation
- 3.2 Types of radiation: non-ionizing such as ultraviolet, visible light, infra rays, microwave, radio frequency, laser
- 3.3 Vulnerable population and health effects of non-ionizing radiation
- 3.4 Types of radiation: ionizing radiation; electromagnetic, particulate radiation
- 3.5 Vulnerable population and health effects of ionizing radiation including diseases
- 3.6 Brief overview of radiation hazards situation in Nepal
- 3.7 Methods of prevention and control of radiation hazards: Safety of machine and equipment, safety of persons, safety of environment
- 3.8 Educational, policy-regulation, infrastructure and managerial interventions to prevent and control radiation hazards

Unit 4: Environmental hazards, risk analysis, prevention and control interventions **6 hours**

- 4.1 Concept of hazards and risk
- 4.2 Environmental Health Risk Assessment (EHIA) particularly of development projects such as road construction, dam construction, crusher industries, cement and brick factories
- 4.3 Environmental Health Impact Assessment (EHIA)
- 4.4 Major environmental accident in and out of Nepal and their epidemiology including disease consequences
- 4.5 Analysis of risk of burden of environmental hazards
- 4.6 Environmental monitoring and evaluation
- 4.7 Public health measures for prevention and control of environmental health risk prevention and impact reduction such

Unit 8: Occupational health hazards and public health measures **6 hours**

- 8.1 Meaning of occupational health hazards and problems
- 8.2 Overview of major occupational health problems and hazards: pneumoconioses, lead poisoning, occupational cancer, dermatoses, accidents, hearing defects, stress, violence
- 8.3 Industrial health, its situation in Nepalese context and safety
- 8.4 Public health intervention to promote occupational health and safety and prevention and control of occupational hazards and diseases
- 8.5 Overview of occupational safety and hazards prevention and control related legislations in Nepal (Labour Act, and Compensation Act)

5. Teaching and Learning Activities

Unit	Methods
1 - 8	Short lecture, group discussion, demonstration and presentation, concurrent field to occupational settings, individual or group assignment, library search

6. Evaluation Scheme

	<u>weightage</u>
3. External (university Examination)	80%
4. Internal Assessment	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading Materials

1. Suryakantha, AH, Community Medicine with Recent advances, New Delhi: Jyapee Brothers Medical publishers(P) Ltd., 2014
2. Khitoliya, R.K., Environmental Pollution, New Delhi: S. Chand & Company Pvt. Ltd.,2014.
3. Park,John, A Twxbook of Preventive and Social Medicine, New Delhi: Bhanot
4. CBS, 2011, Environmental Statistics of Nepal
5. WHO, 2003, Climate change and human health-Risks and responses

6. WHO, 2013, Protecting health from Climate Change: Vulnerability and adaptation assessment
7. James A Listori, Fadi M Doumani: Environmental Health, Bridging the Gaps
8. WHO 2001, Occupational Health, a manual for primary health workers:
https://www.who.int/occupational_health/regions/en/oehemhealthcareworkers.
9. Benjamin O. ALLI (ILO) 2008. Fundamental Principles of Occupational Health and Safety, 2nd edition:
https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/@publ/documents/publication/wcms_093550.pdf
10. OSHAcademy, Introduction Occupational Safety and Health, 2017,
<https://www.oshatrain.org/courses/studyguides/600%20Employee%20OSH.pdf>
11. WHO/UNICEF Report: Water, Sanitation and Hygiene in Health Care Facilities: status in low-and middle-income countries and way forward
[:https://www.who.int/water_sanitation_health/publications/qa-wash-hcf.pdf](https://www.who.int/water_sanitation_health/publications/qa-wash-hcf.pdf)

Purbancha University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

Demography, Population Studies and Family Planning

1. Preliminaries

Course Title	Demography, Population Studies and Family Planning	
Second Year	Third Semester	Course Code: BPH 203.6 DPSFP
Credit hours: 3Cr (48hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

The course imparts a basic knowledge of population concepts, theories and models in relationship with public health and identifying emerging issues in medical demography and family planning. The understanding of medical demography will provide a better perspective in managing public health delivery system and methods for calculating different demographic indicators and their interpretation.

3. Course Objectives

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

1. Explain the basic demographic techniques for population and health analysis.
2. Describe structure, characteristics, and components of population change and population growth.
3. Explain population dynamics of Nepal.
4. Identify the impact of population growth on public health, ecology and development.
5. List and describe different method of family planning and importance of counseling to the clients for the adoption of appropriate family planning scheme including the barriers of contraceptive use.
6. Calculate different demographic and FP related indicators.
7. Explain population and demography in the context of public health interventions.

4. Course Contents

Unit 1: Introduction to demography and population studies 4 hours

- 1.1 Introduction, and importance of demography, and population studies in public health
- 1.2 Application of demography and population studies in public health system development, and program planning
- 1.3 Sources of population data and importance of population census, civil registration and vital statistics, national identity card and vital registration, sample surveys data, health institution data, national and international publications
- 1.4 Introduction, objectives and process of Demographic Health Surveys and population census in Nepal

Unit 2: Demography 3 hours

- 2.1 Concept and importance of demography
- 2.2 Application of demography in public health system development, program planning and research
- 2.3 Demographic indicators and their need for public health
- 2.4 Different measure and calculation of demography: Population ratio with different levels of health worker (Public health workforce such as public health officers, public health educator, environmental health officers, public health nutritionists and medical and paramedics, such as, doctor, nurse
- 2.5 Concept of demographic record and its importance in designing and implementing public health actions and interventions

Unit 3: Population structure, characteristics and components

6 hours

- 3.1 Meaning of healthy and unhealthy people in population structure
- 3.2 Meaning and types of population pyramid, use of population pyramid in public health, trend analysis and comparison of population pyramid between developing and developed countries
- 3.3 Importance of age and sex structure in public health
- 3.4 Define literacy rate, sex ratio and dependency ratio
- 3.5 Concept of young and old age population and aging of population, decaying of population

Unit 4: Population theories, policy and programs

6 hours

- 4.10 Early thinking on population issues
- 4.11 Malthusian doctrine and Neo-Malthusians, Cornucopias concepts

- 4.12 Demographic transition theory
- 4.13 Essential requisite of population policy
- 4.14 Overview of current population policy and programs of Nepal

Unit 5: Components of population change from public health perspective 9 hours

- 5.1 Ancient perception of population components: Siddhartha Gautam's concern about major demographic indicators: birth, aging, morbidity, mortality internal migration
- 5.2 Fertility and birth
 - a. Concept of fertility
 - b. Different measures (calculation) of fertility such as crude birth rate, age specific fertility rates and total fertility rate
 - c. Child women ratio and its use
 - d. Standardized birth rates and its purpose
 - e. Replacement level of fertility
 - f. Population momentum
 - g. Factors affecting fertility
 - h. Infertility management
 - i. Birth rates, baby boom and baby bust syndrome
 - j. Measures of reproduction: Concepts and importance of gross and net reproduction rate
- 5.3 Morbidity
 - a. Healthy and morbid population
 - b. Meaning of morbidity and importance in population study
 - c. Overview of morbidity indicators
 - d. Population mobility due to morbidity particularly during epidemics
- 5.4 Mortality
 - a. Concepts and importance
 - b. Measure of mortality (calculation): Crude and specific rates, infant and maternal mortality ratio
 - c. Other measures of mortality: Neonatal and post neonatal mortality, foetal, prenatal and perinatal mortality rates
 - d. Standardized death rate and its importance
 - e. Factors affecting mortality
 - f. Mortality and population change
- 5.5 Migration

- a. Concepts, some useful terms, types of migration
- b. Measures of migration (calculation)
- c. Estimation of life time and international migration
- d. Factors affecting migration and population change

Unit 6: Population projections

6 hours

- 6.1 Concept, importance of population projection, difference between projection and estimation
- 6.2 Population projection by balancing equation
- 6.3 Population growth pattern in Nepal and the growth pattern in the world
- 6.4 Mathematical methods of population projection, calculation and their appropriate use and constraint
 - a. Arithmetical model
 - b. Geometric model
 - c. Exponential model

Unit 7: Population, ecology and development

4 hours

- 7.1 Relationship between population, ecology and development
- 7.2 Population growth and economic development
- 7.3 Population explosion and its effect in ecology and public health
- 7.4 Interrelationship between population, resources, environment and development
- 7.5 Quality of human life (Human development index and indicators)

Unit 8: Family planning

10 hours

- 8.1 Definition and concept of family planning; family planning as a means to promote health of the family members
- 8.2 Various forms of family planning including natural, long term and short term method, mode of action, benefit, side effects, indication and contraindication of various contraceptive devices and recent trends in contraception
- 8.3 Discuss factors associated with use and non use of contraceptives (barriers)
- 8.4 Concept and importance of family planning counseling
- 8.5 Calculation of indicators that are commonly used in FP services

- 8.6 Definition of FP unmet need and process of calculating such need
- 8.7 Concept and importance of post partum family planning
- 8.8 Overview the importance of FP programme in health (social, economic, environment, quality of life etc.)
- 8.9 Discuss the role of men in family planning
- 8.10 Explain the approaches to conduct the FP programmes including family planning camps
- 8.11 Current practice of planning, organizing, managing and evaluation of FP activities in Nepal
- 8.12 Implementation of public health intervention to promote family planning such as family planning education, women empowerment to use their reproductive rights, access to contraceptives; policy-regulatory measures, family planning infrastructure building, community organization and participation to promote family planning particularly to increase contraceptive prevalence rates

5. Teaching Learning Activities

Units	Methods/media
1-8	Illustrative lecture, interactive and participatory T/L methods support by audiovisual materials, group discussion, demonstration of real objects, document review, document show, individual or group assignment

6. Evaluation Scheme

	<u>weightage</u>
1. External (University examination)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	
c. Class presentation and home assignment	25%

Reading materials

1. Misra Bhaskar "An introduction to the study of population" South Asian Publishers Pvt. New Delhi. (Latest Edition).
2. Bhende, AA and Kanitkar T. "Principles of population studies" Himalaya Publishing House, Bombay, (Latest edition).

3. Ministry of Health and Population Nepal, New ERA, and Macro International Inc. Nepal Demographic and Health Survey (NDHS); 2006, 2011, 2016.
4. Pathak . KB & Ram F. “Techniques of Demographic Analysis” Himalaya Publishing House (Latest edition)
5. Sinha VC, Jacharia E. “Elements of Demography” Applied Publishers Private Limited. 2nd edition
6. Bogue. D. "Principles of Demography", John Wiley and Son New Works, 1969.
7. Ajit Pradhan et al, " Nepal Maternal Mortality and Morbidity Study 2008/2009, Family Health Division, Government of Nepal, Kathmandu, Nepal
8. Comprehensive family planning (COFP) course NHEICC/Nepal.
9. Cox. RC. "Demography", Cambridge University Press. 1986.
10. Sryock. HS; Siegel Js; and Associate. “The methods and materials of demography” US Bureau of the census. Washington. DC. 1989.
11. Srivastava. OS. Demography and Population Studies Vikas Publishing House Pvt. Ltd, 2nd Edition 1994.
12. K. Park, A textbook of preventive and social medicine (Latest edition).
13. MoHP, Nepal. Annual Report, Department of Health Services (different years)
14. WHO, 2012. A guide to Family Planning- for community health workers and their clients

Purbancha University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

**Epidemiology of Communicable Diseases –II - Concurrent
Field Based Practice**

1. Preliminaries

Course Title	Epidemiology of Communicable Diseases –II - Concurrent Field Based Practice	
Second Year	Third Semester	Course Code: BPH 203.2 ECD-II -CFBP
Credit Hours: 1Cr (32hrs)	Full Marks: 50	Pass Marks: 30

2. Course Description

This course is designed to develop practical skills of the students, to understand and identify communicable diseases and preventive measures. Students will visit nearby Community and Health Post/PHC under direct supervision of the subject teacher, gather information, and explore the natural history of communicable disease, risk factor. Students interact with local health workers and explore the risk factors and disease control measures applied by local health institution and government.

3. Objectives

Upon the successful completion of the course, students will acquire practical knowledge and skill and will be able to:

- Understand about the basic concept of communicable diseases.
- Assess the communicable disease in the community and explore risk factors.
- Explore the disease history of patients at HP/PHC, cause, mode of transmission and sign & symptoms of the communicable diseases
- Understand the governmental programs for control and preventive measures for risk factors and communicable diseases through local health institutions

4. Procedures:

For the completion of these practical course students will have field visits in two sites.

- a) **Visit nearby community:** students visit nearby community in a team of 4-5 people. Each team will visit at least 5 household, interact household members, discuss about communicable diseases in the community, observe and explore the risk factors and preventive approaches applied by family/community. They also explore the attitude, perception and health seeking behavior of community regarding risk factor prevention and communicable disease control. Students observe household and community setting that affects for health and diseases. Before community visit, students need to develop a short tool of data collection.
- b) **Visit HP/PHC:** Students visit different HP/PHC Centre for next day. Student will be divided in a small team of 4-5 people. Each team will contact patients having communicable disease but with different problems, take the disease history of patients, note down the signs and symptoms, patient's perception on the cause of same illness. Students observe the service providing by HP/PHC regarding communicable disease. The PHC/HP in-charge will be requested to explain about the government's program and activities for controlling and preventing risk factors of the communicable disease through local health facility.

5. Maintain process of practical work

- After collecting information, each group needs to prepare a report including all the findings from the community and from the health centre and need to submit the report within two weeks.
- The report should be signed by respective teacher.
- Within a week of particular field visit, group needs to make a presentation in the college in front of faculty.
- For final evaluation students should bring the report they have prepared after field visit.

6. Evaluation Scheme

Weightage (50 marks)

- | | |
|--|----------|
| a) Attendance, disciplines and performance | 10 marks |
| b) Presentation at college and report submission | 10 marks |
| c) Final Evaluation (viva) | 30 marks |

Purbancha University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

Family Health –I - Concurrent Field Based Practice

1. Preliminaries

Course title	Family Health –I - Concurrent Field Based Practice	
Second Year	Third Semester	Course Code: BPH 203.3 FH-I-CFBP
Credit hours: 1Cr (32 Hrs)	Full marks: 50	Pass marks: 30

2. Course descriptions:

The field based practice is a course designed to equip the students with practical skills of assessing the factors influencing the family health with visiting the community in a real life situation. Students will have one day concurrent field visit in the community. Students visit to families and interact with the members to identify different family level issues, health problems, environmental problems, social and service related factors affecting the health of family. Students will also identify mother having children of under five years or pregnant women or lactating mother and interact with them about health problems and service utilization by mother and children. In this process, students will work in a team and visit household in the particular community.

3. Objectives: Upon the successful completion of the course, the students able to:

- Identify the socio-demographic characteristic of the family
- Gather information about common health problems and important issues affecting women’s and child’s health
- Explore the factors associate with family health
- Assess the environmental health issues in the community
- Appraise the health knowledge, attitude and practice of the family

- Assess the maternal and child health problems and service utilization

4. Filed based practice procedures

a) Concurrent field at community:

- Students do one day concurrent field in the community
- Concerned teacher guide the students for performing the task (objectives, process, tools development, site selection, field supervision, report writing)
- Students will be divided into group of 4-5 people
- Each team of students develop data collection tools/checklist in brief and apply it for collecting information
- Students visit community – each team visit at least 5 households and interact with family members, pregnant women or mother, explore service utilization eg. child immunization, maternal health, reproductive health, FP and other health problems
- Explore health problems in the family eg. diabetes, heart disease, kidney disease, cancer, respiratory problems etc and explore the factors influencing the problems
- Observe the household sanitation, hygiene by using checklist
- Observe food hygiene at household
- Each team perform data analysis, prepare report and presentation at college

5. Maintain process of practical work

- Individual team prepare report and submit to department
- All reports should be signed by respective teacher
- All student must bring report in the final practical examination
- Final examination base on field work

6. Evaluation Scheme

weightage (50 marks)

- | | |
|--|----------|
| d) Attendance, disciplines and performance | 10 marks |
| e) Presentation at college and report submission | 10 marks |
| f) Final Evaluation (viva) | 30 marks |

Purbancha University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

Applied Public Health Nutrition - Concurrent Field Based Practice

1. Preliminaries

Course Title	Applied Public Health Nutrition - Concurrent Field Based Practice	
Second Year	Third Semester	Course Code: BPH 203.4 APHN-CFBP
Credit Hours: 1Cr (32hrs)	Full Marks: 50	Pass Marks: 30

2. Course descriptions

The practical course is designed to provide basic knowledge and skills of nutritional assessment on applied public health nutrition. Students conduct one day concurrent field visit in the community and perform diet survey and anthropometric measurement of under five children as well as BMI measurement of adults. This practical course will enable students to assess the nutritional status of infant, children and adults using various measurement techniques. In addition, students will also visit nutrition rehabilitation homes or nutrition care centers and acquire basic knowledge on the management of nutrition rehabilitation home or care center with their activities.

3. Objectives

After completion of this course, the students are expected to apply the knowledge and skills of food and nutrition in their practical life in different settings: home, villages/community/city, school/colleges etc. They are expected to be able for making interventions of different nutritional strategies and programs in future.

4. Procedures

a) Concurrent field visit at community:

- Students will work in a team of 4-5 people.

- One day concurrent field for diet survey of any community (family and relatives, any specific community, area) using 24 hours recalls method (visit at least 5 families by each team). Each team of student prepares necessary tools for diet survey before field visit.
- Anthropometric measurement of any infant/child, BMI measurement of adult (at least 4 children and 2 adult cases.)
- Concerned teacher guide the students throughout the process

b) Concurrent field at health institutions:

- One day observation visit to Nutrition Rehabilitation Home/nutrition care unit at community or health institutions or hospital (if available)
- Prepare data collection tools before field visit
- Concerned teacher or faculty guide the students throughout the practical course

5. Maintain process of practical work

- Individual team need to prepare report of their field work
- Each team make presentation at college
- All reports should be signed by respective teacher
- All student must bring report in the final practical examination
- Final examination is based on field work

6. Evaluation Scheme

Weightage (50

marks)

- | | |
|--|----------|
| a. Attendance, disciplines and performance | 10 marks |
| b. Presentation at college and report submission | 10 marks |
| c. Final Evaluation | 30 marks |

Purbancha University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

Environmental and Occupational Health - Concurrent Field Based Practice

1. Preliminaries

Course Title	Environmental and Occupational Health - Concurrent Field Based Practice	
Second Year	Third Semester	Course Code: BPH 203.5 EOH-CFBP
Credit Hours: 1Cr (32 hrs)	Full Marks: 50	Pass Marks: 30

2. Course description:

This is a course designed to deliver practical skills for the students. Students will visit the industries to observe/understand the occupation safety practices and visit health institutions to acquire the knowledge of health care waste management system and practices. Students will observe, feel, interact and collect information and manage that information. Students will acquire practical knowledge and skill on health care waste management process by health care institutions, and occupational safety measures applied by industries.

3. Objective

Upon the successful completion of the course, student will be able to assess the occupational safety in any industrial setting and health care waste management practices by health care institutions. Students will be able to know about health care waste management system, assess the challenges of health care waste management. Similarly, students explore works of public and private organizations for protecting environment, climate and WASH program.

4. Field based practice procedures

a) Concurrent field:

- Plan for one day concurrent field in industry to observe occupational safety, or municipality hospitals/PHC/HP for observing health care waste management, or any private and

public organization working for preservation environment, climate change (ECIMOD), WASH etc. Students can be divided into small team of 5-6 members and visit separately in different organization. Students observe, explore and collect relevant information from visited organizations.

- Prepare a necessary tool for information collection (depends on setting).
- The course teacher orient students, manage the field visit, guide the student for developing tools, report writing and assist during field visit.

5. Maintain process of field practice

- Each team of students needs to write field visit report and submit to concerned teacher and make college presentation
- All reports should be signed by respective teacher
- Each student must bring field visit report in practical examination
- Final examination is based on practical

6. Evaluation Scheme

Weightage (50 marks)

- | | |
|---|------------|
| a) Attendance, discipline and performance | - 10 Marks |
| b) Field visit report evaluation | - 10 Marks |
| c) Final Practical Examination | - 30 Marks |

**Second Year
Fourth Semester**

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Health program

1. Preliminaries

Course title	Reproductive Health and Gender	
Second Year	Fourth Semester	Course Code: BPH 204.1 RHG
Credit hours: 3Cr (48 hrs)	Full marks: 100	Pass marks: 50

2. Course Description

One of the important areas of public health practice is reproductive health, including its promotion at various stages of reproduction. They need to prevent different adverse situations that may hinder normal process of reproductive health throughout the lifecycle from puberty to adult women of menopausal stage and aging. This course helps students to develop basic knowledge and skills regarding reproductive health particularly with the dynamics of gender issues that may move the process of reproduction process as well as the provision and utilization of the related public health services. Course covers puberty, sexuality, pregnancy, child birth, neonatal care, adolescent and elderly reproductive health and dynamics of gender in the field.

3. Course Objectives

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

1. Describe concept of reproductive health.
2. Describe puberty as preparatory stages of reproduction.
3. Explain sexual union, fertilization, fertility and infertility.
4. Explain the issues of pregnancy, reproductive rights, contraceptives and safe abortion.
5. Define safe motherhood and ways to make the motherhood safe.
6. Explain the need for successful child birth and appropriate newborn care for neonatal survival using public health measures.
7. Describe the nature of adolescent health, elderly reproductive health and ways to promote their health.
8. Define gender, techniques of gender analysis and significance of gender in development.

9. Highlight gender mainstreaming in relation to promotion and maintenance of reproductive health.

4. Course Contents

Unit 1: Introduction to reproductive health 6 hours

- 1.1 Review of reproductive system
- 1.2 Definition and importance of reproductive health
- 1.3 Overview of responsibilities of public health practitioners regarding reproductive
- 1.4 List of components of reproductive health as per life cycle process
 - a. Puberty b. Menstruation c. Ovulation d. Sexual union e. Fertilization f. Pregnancy g. Child birth h. Menopausal
- 1.5 Components of reproductive health according to the International Conference on Population and Development (ICPD) 1994

Unit 2: Puberty, Ovulation and Spontaneous ejaculation 5 hours

- 2.1 Meaning of healthy growth and developmental characteristics during puberty among girls and boys
- 2.2 Puberty anxiety and their handling
- 2.3 Gonads development and functions (Ovary-ovum and Testes-sperm)
- 2.4 Review of physiology of ovulation among girls and spontaneous ejaculation among boys
- 2.5 Ovulation and ejaculation: psychological problems including anxiety among teen agers and their handling
- 2.6 Menstruation:
 - a. Menstruation physiology
 - b. Pre and post-menarche and menstrual syndrome including psychological problems and their management
 - c. Menstrual hygiene: importance, measures and health effects of lack of hygiene
 - d. Overview of menstrual issues among school going girls and measures to address them
 - e. The case of *chhaupadi*(menstrual isolation) and its health effects, issues and legal provision in Nepal

Unit 3: Sexuality, fertilization, fertility and infertility 6 hours

- 3.1 Meaning of sexuality and need for sexuality education

- 3.2 Premarital sex including teen age sex
- 3.3 Physical and psycho-social consequences of natural and unnatural, safe and unsafe. and consented and forced sex
- 3.4 Overview of physiology of fertilization
- 3.5 Chromosomes, role of male and female in sex determination of the zygote
- 3.6 Need for changing the practice of blaming the women for infertility and conception of girl-child
- 3.7 Sex preference, issue of sex identification during pregnancy, need for changing negative attitudes towards conception of girl-child
- 3.8 Definition of infertility and sub-fertility, causes including risk factors
- 3.9 Prevention and management of infertility and sub-fertility
- 3.10 Meaning of intrauterine insemination (IUI), in-vitro fertilization (IVF) and impact of IUI and IVF in family life (in Nepalese context)
- 3.11 Importance of fertility-infertility education and counseling

Unit 4: Pregnancy, reproductive rights, contraceptives and abortion
6 hours

- 4.1 Definition and measures to promotion successful implantation
- 4.2 Brief overview of stages of pregnancy
- 4.3 Teen age pregnancy: early detection, factors affecting, effects on health, and preventive measures
- 4.4 Overview of reproductive rights of women: pregnancy choice; termination of unwanted pregnancy; surrogate-mother; pregnancy privileges and benefits
- 4.5 Delaying and spacing pregnancy: Family planning; contraceptive methods, choosing criteria, services and uses;
- 4.6 **Abortion:** Terminating unwanted pregnancy: Definition of abortion; various forms of abortion (traditional ways, MA, MVA, surgical) at various stages of pregnancy and their rationales; complications of unsafe abortion and their prevention and management;
- 4.7 Highlights of the Government programs (educational, empowerment, policy-regulation, infrastructure and management) on reproductive rights, contraceptive and safe abortion

- 4.8 Overview of reproductive health related issues addressed by ICPD Cairo 1994

Unit 5: Overview of Safe motherhood (Details are dealt in other course) 5 hours

- 5.1 Definition, importance and essentials of safe motherhood
- 5.2 Overview of the six-pillar components of safe motherhood
- 5.3 Antenatal health risk factors, complications, their prevention and early detection
- 5.4 Protecting health of the mother (immunization and micro nutrient measures)
- 5.5 Prenatal service: Stage-wise features of prenatal care: availability and utilization of antenatal services; safe motherhood issues;
- 5.6 Highlights of maternal morbidity and mortality risk factors and their effects on health of the mother and child: Maternal age, unwanted pregnancy, induced abortion, spontaneous abortion etc.
- 5.7 Highlights of the Government programs (educational, empowerment, policy-regulation, infrastructure and management) on safe motherhood including maternal incentive scheme

Unit 6: Child birth and newborn care 6 hours

- 6.1 Overview of physiology of child birth
- 6.2 Nature of delivery complication and preventive measures to avoid the complications
- 6.3 Definition, importance and essentials of newborn care
- 6.4 Overview components of newborn care including child survival
- 6.5 Newborn health risk factors, complications, their prevention and early detection
- 6.6 Protecting health of the newborn (immunization)
- 6.7 Newborn health service: availability and utilization of newborn care services; newborn health issues including low birth weight baby, kangaroo mother-care, colostrums feeding
- 6.8 Highlights of the Government programs (educational, policy-regulation, infrastructure and management) on child birth and neonatal care including National Neonatal Health Strategy and institutional delivery to promote newborn care

Unit 7: Adolescent and elderly reproductive health **4 hours**

- 7.1 Definition of adolescent reproductive health and measures to promote their health
- 7.2 Overview of common adolescent reproductive health problems, their risk factors and prevention and management measures
- 7.3 Definition of elderly health and psycho-physiological changes among elderly women (menopause) and men
- 7.4 Reproductive health problems of elderly men and women and their prevention and management
- 7.5 Highlights of the Government programs (educational, empowerment, policy-regulation, infrastructure and management) on adolescent and elderly reproductive health

Unit 8: Gender and health **10 hours**

- 8.1 Concept of gender and sex and its application in women's health
- 8.2 Identification of women with difficult circumstances: destitute, refugee, internally displaced, disaster and war/conflict driven) and gender discrimination during the circumstances and their effects in health of women
- 8.3 Basis of gender analysis: gender equity, equality, mainstreaming, analysis framework
- 8.4 Women's empowerment and its agenda: legislation, education, social and political participation, labor saving, technologies, economic opportunities and their impact on health development of women
- 8.5 Clarification of concepts of Women in Development (WID), Women and Development (WAD), Gender and Development (GAD) and their application in women's participation in public health actions and interventions
- 8.6 Roles of men in bridging gender gap in provision and utilization of gender friendly public health services, particularly reproductive health services
- 8.7 Overview of gender health related policies and programs in Nepal including women led public health initiatives
- 8.8 Gender based violence in context of Adolescent Sexual Reproductive Health.
- 8.9 Girl Trafficking from health and disease perspectives
- 9.0 Counseling and life skill training for adolescent

4. Teaching-learning activities

	Method/media
1-8	Interactive lecture, Group discussion, role-play, Individual and group assignment to review reproductive health related government documents , simulated cases followed by presentation, field visits, document show,

7. Evaluation

Scheme weightage

- | | |
|---|-----|
| 1. External (University examination) | 80% |
| 2. Internal | 20% |
| a. Written examination (two examinations) | 50% |
| b. Class attendance | 25% |
| c. Class presentation and home assignment | 25% |

6. Reading materials

1. Department of Health Services, *National Reproductive Health Strategy 2014*, Kathmandu.
2. Department of Health Services, **Annual Report (Recent report)**
3. Family Health Division, *National Adolescent Health and Development Strategy*, Kathmandu: Department of Health Services.
4. Park, K. *A Textbook of Preventive and Social Medicine* (Recent edition)
5. Ray, Raka, *Handbook of Gender*, Oxford University Press
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11. Government of Nepal, Ministry of Health, National Health Training Center, 2016, Health Response to Gender-Based

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12. UNFPA 2001, *A Practical Approach to Gender-Based Violence, A Programme Guide for Health Care Providers and Managers*: www.unfpa.org
 13. American Psychological Association 2002, *Developing Adolescents: A Reference for Professionals*
 14. International Initiative for Impact Evaluation, 2016. *Adolescent sexual and reproductive health Scoping the impact of programming in low- and middle-income countries*: www.3ieimpact.org
 15. UNICEF, *the state of world's children 2011*, Adolescence, An Age of Opportunity: www.unicef.org
 16. UNICEF, *the state of world's children 2013*, motherhood in childhood, facing the challenges of adolescent pregnancy: www.unicef.org
 17. Government of Nepal, Ministry of Health and Population, 2011. *Nepal Adolescent and Youth Survey*: www.mohp.gov.np
 18. Government of Nepal, MoHP, FHD 2000. *National adolescent Health and Development strategy*: www.mohp.gov.np
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Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Epidemiology of Non-Communicable Diseases and Mental Health	
Second Year	Fourth Semester	Course Code: BPH 204.2 ENCDMH
Credit hours: 3Cr (48hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

Mental well-being is imperative for maintaining physical and social well-being leading to quality of life. However, the state of mind is affected by many factors. There is a paradigm shift from issues of communicable diseases to that of non-communicable diseases including mental illnesses. Many of these diseases are induced by unfavorable lifestyles recently rising challenge to public health practitioners. Therefore, students learning public health discipline need to understand the dynamics of non-communicable diseases including mental disorders. This course is designed to help students to understand the issues of non-communicable diseases and mechanism to mitigate them through application of public health measures.

3. Course Objectives

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

1. Explain the need for developing knowledge and skills of non-communicable diseases and mental health among high level public health practitioners.
2. Define non-communicable disease.
3. Explain current situation of NCDs and Mental health problem in Nepal.
4. List and describe important risk factors of non-communicable disease

5. List and describe common non-communicable diseases including nutritional deficiency diseases and public health measures to mitigate them.
6. Highlight various categories of injuries and their preventive measures.
7. Differentiate mental health and mental diseases or disorders.
8. List and describe various mental diseases or disorders including public health measures to prevent them.
9. Highlight the efforts of government and NGOs regarding non-communicable diseases and mental health in Nepal.

4. Course Contents

Unit 1: Introduction to non-communicable diseases 5 hours

- 1.1 Highlights of prevention, control, and encouragement for early detection treatment and compliance to treatment of non-communicable diseases as some of the core actions of public health
- 1.2 Definition of non-communicable disease and meaning of paradigm shift from communicable to non-communicable including lifestyle related diseases
- 1.3 Overview of the following general risk factors of non-communicable diseases and the need for preventing them from occurring
 - a. Consumption of unhealthy and unsafe foods
 - b. Consumption of tobacco, tobacco products, and excessive alcohol
 - c. Substance abuse
 - d. Sedentary living
 - e. Radiation and pollutants exposure
 - f. Occupational hazards

Unit 2: Causative agent, specific risk factors, sign and symptoms, early detection, general treatment, prevention and control measures, of the following non-communicable diseases and infirmity: 10 hours

- 2.1 Overview of Non-communicable diseases/conditions:
 - a. Stroke
 - b. Cardiovascular diseases
 - c. Cancer

- d. Diabetes
- e. Chronic Obstructive Respiratory Disease (COPD)
- f. Obesity
- g. Hypertension
- h. Stones

2.2 Public health interventions (educational, policy-legal, community organization, infrastructural etc.) and Nepalese Government programs related to non-communicable diseases/conditions.

Unit 3: Causative agent, specific risk factors, sign and symptoms, early detection, general treatment, prevention and control measures of the following nutrition deficiency diseases and disorders: 10 hours

3.1 Nutritional deficiency diseases:

- 1. Kwashiorkor
- 2. Marasmus
- 3. Xerophthalmia (Night blindness)
- 4. Anemia 6. Beriberi
- 7. Rickets

3.2 Public health interventions (educational, policy-legal, community organization, infrastructural etc.) and Nepalese Government programs related to nutritional deficiency disorders and diseases

Unit 4: Overview of current situation of causes, specific risk factors, emergency care, preventive measures, public health interventions (educational, policy-legal, community organization, infrastructural etc.) and Nepalese Government programs of the following accidents/injuries in Nepal: 4 hours

4.1 Accidents/injuries:

- 1. Motor vehicle accident/injuries
- 2. Domestic accident/ injuries
- 3. Natural disaster-induced injuries
- 4. Armed-conflict led injuries

4.2 Public health interventions (educational, policy-legal, community organization, infrastructural etc.) and Nepalese Government programs related to accidents/injuries

Unit 5: Introduction to mental health **5 hours**

- 5.1 Mental well-being as one of three aspects of definition of health as per the World Health Organization
- 5.2 Definition of mental health
- 5.3 Definition of normal mind and characteristics of a mentally sound person
- 5.4 Measurable indicators of sound mental state
- 5.5 Mental health promotion: meaning and measures for promotion (bio-chemical, physiological, social and ethical)
- 5.6 Brief highlights of Siddhartha Gautam on moral and mental health, meaning and utility of oriental principles of mental health promotion
 - a. Purity and peace of mind
 - b. Sound mind in sound body
 - c. The doctrine of *sadbichar* (positive thinking)
 - d. *Dhyana* and *bipaasanaa* (meditation) the way to maintain mental soundness
- 5.7 Contribution of mental well being to the quality of life

Unit 6: Abnormality of mental health **5 hours**

- 6.1 Definition of abnormality and characteristics of abnormal mind person
- 6.2 Measurable indicators of abnormal state of mind
- 6.3 Determinants of mental health or mental disorder
- 6.4 General determinants of mental disorder and their preventive measures
- 6.5 Prevailing misconceptions about mentally ill persons in Nepalese society and need for changes in the misconceptions
- 6.6 Estimation of psychological, social and economic effects of mental illness to family
- 6.7 Stress- illness link model by Selye and stress related illness.

Unit 7: Causes, specific risk factors, sign and symptoms, early detection, general treatment, preventive measures, of the following mental diseases and disorders: **9 hours**

- 7.1 Overview on current situation of mental health problems in Nepal
- 7.2 Mental diseases and disorders:
 - a. Acute brain disorder: Delirium

- b. Chronic brain disorder: Senile Dementia,
 - c. Substance use disorder: Alcohol, Drugs
 - d. Psychotic disorder: Schizophrenia, Manic Depressive Syndrome, Paranoia, Psychosis
 - e. Neurotic disorder: Hysteria/Conversion, Anxiety, Post Traumatic Stress Disorder
 - f. Psychosomatic disorders
 - g. Personality disorder
 - h. Behavioral, psychological disorders: Autism, enuresis, pica, tantrums, thumb sucking, separation anxiety, school phobia
- 7.3 Different level of prevention and control of mental disorders
- 7.4 Policy and strategies in prevention and management of mental illness/disorders
- 7.5 Public health interventions (educational, policy-legal, community organization, infrastructural etc.) and Nepalese Government programs related to accidents/injuries

5. Teaching-Learning Activities

Unit	Method
1 - 7	Illustrative lecture, interactive and participatory T/L methods support by audiovisual materials, group discussion, demonstration of real objects,

6. Evaluation Scheme

Weightage

- | | |
|---|-----|
| 1. External (University examination) | 80% |
| 2. Internal | 20% |
| a. Written examination (two examinations) | 50% |
| b. Class attendance | 25% |
| c. Class presentation and home assignment | 25% |

Reading materials

1. Park, K. Park's Textbook of Preventive and Social Medicine. Jabalpur, BanarasidasBhanot Publishers (Recent Edition),
2. Suryakantha, AH. Community Medicine with Recent Advances, New Delhi: Jaypee Brothers Medical Publishers (P) Ltd, 2014
3. Schneider, Mary-Jane, Introduction to Public Health, New Delhi: Jones and BarlettIndia Pvt. Ltd., 2014

4. Government of Nepal, NHTC/WHO, Package of Essential Non Communicable Disease (PEN) Intervention at Primary Health Services setting, PEN Training Trainer's Manual 2075 BS
5. WHO 2018, Non Communicable Disease Country Profiles 2018:www.who.org
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http://www.euro.who.int/__data/assets/pdf_file/0004/235975/Prevention-and-control-of-noncommunicable-diseases-in-the-European-Region-A-progress-report-Eng.pdf
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15. WHO, 2003. Investing in Mental Health:
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16. Mental Health Foundation, UK, 2015. Fundamental Facts About
Mental
Health:<https://www.mentalhealth.org.uk/sites/default/files/fundamental-facts-15.pdf>

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course title	Family Health – II	
Second Year	Fourth Semester	Course Code: BPH 204.3 FH-II
Credit hours: 3Cr (48hrs)	Full marks: 100	Pass marks: 50

2. Course Descriptions

Family health is one of the important areas of public health practice for promoting health of family members. Therefore, public health practitioners need to understand about the concept, components and characteristics of family health, roles and responsibilities of family members for the family health development. This course is designed to impart the basic knowledge of life cycle approaches of family health, responsible parenthood, the adolescent health, adult health, elderly health and concept of disability, rehabilitation and palliative care.

3. Course Objectives

1. Upon the successful completion of the course, the students will be able to:
2. Describe the concept and importance of life cycle approach of family health.
3. Explain parenthood and its application in healthy family development.
4. Describe the concept of adolescent health and its importance.
5. Overview the concept of adult health and its importance.
6. Explain the concept of elderly health and its importance.
7. Explain the social issues of disability and its management through rehabilitation.
8. State the concept of palliative care in Nepal.

4. Course Contents

Unit-1: Life-cycle perspective in health

3 hours

- 1.1 Overview the concept of life-cycle perspective of health
- 1.2 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 2: Responsible parenthood

7 hours

- 2.1 Definition, subject matter of responsible parenthood
- 2.2 Six stages of parenthood (Stage One: Image-Making; Stage Two: Nurturing; Stage Three: Authority; Stage Four: Interpretive; Stage Five: Interdependent and Stage Six: Departure)
- 2.3 Responsible parenthood practices and its effect on family health in Nepal
- 2.4 Father's role during delivery and after child birth
- 2.5 Roles and responsibility of family members in responsible parenthood
 - Economic responsibility
 - Responsibility in child rearing and caring
 - Responsibility of household chores
 - Health promotion and disease prevention
 - Moral and emotional support
 - Education and development
 - Fun and recreational activities
 - Family order

Unit-3: Adolescent Health

16 hours

- 3.1 Definition of adolescent, special characteristics, and adolescent health
- 3.2 Importance of focusing on adolescent health under family health
- 3.3 Adolescent health needs for the growth and development of physical, psychological, spiritual and social health of adolescent
- 3.4 Concept of sexuality among adolescents and ways of proper handling of sexuality
- 3.5 Approaches to address the adolescent health needs, health promotion, life skill education including empowering strategies (Ottawa Charter)
- 3.6 Current health status of adolescents in the world and Nepal
- 3.7 Adolescent health problems in Nepal, including teenage pregnancy, unsafe abortion, STIs/RTIs, drug abuse, alcoholism, smoking, accidents, mental health problems including stress, violence, crime adjustment to new social changes etc.

- 3.8 Factors affecting adolescent health and health problems: generation gap, uncontrolled media exposure, unhealthy product marketing, family disorder etc.
- 3.9 Adolescent friendly public health services for P3CE and medical care
- 3.10 Latest national adolescent health and development strategy of Nepal
- 3.11 Overview of National Adolescent Sexual and Reproductive Health Policy, Strategy and Program of Nepal

Unit - 4: Adult health

5 hours

- 4.1 Definition of adult, special characteristics of adult and adult health
- 4.2 Importance of focusing on adult's health under family health
- 4.3 Adult health needs for the growth and development of physical, psychological, spiritual and social health
- 4.4 Determinants of health and disease of the adults
- 4.5 Health risks and problems, including diseases of adults in Nepal
- 4.6 Adult friendly public health service approaches for P3CE and medical care

Unit-5: Elderly health

10 hours

- 5.1 Definition of ageing and healthy aging
- 5.2 Importance of focusing on elderly people under family health
- 5.3 Situation of elderly people in global context and National context
- 5.4 Specific health needs of elderly people
- 5.5 Issues of healthy aging
- 5.6 Major health problems of elderly people
- 5.7 Approaches to address the health and diseases of elderly people
- 5.8 Role of the state and other sectors for supporting old age people (Physical, economic, social and spiritual)
- 5.9 Overview of social security schemes for old age people in Nepal
- 5.10 Roles of the family and old-age homes for health care of the aged people
- 5.11 Elderly friendly public health services approaches for P3CE and medical care in Nepal

Unit- 6: Disability, Rehabilitation and Palliative Care **7 hours**

- 6.1 Definition of disability, types and major factors/ problems leading to disability
- 6.2 Measures for maintaining the healthy lives of disabled people
- 6.3 Situation of disability in global and national context.
- 6.4 Preventive measures to decrease the occurrence of disability and disability led disability (DLD)
- 6.5 Concepts of rehabilitation including overview of Community-Based Rehabilitation (CBR) program in Nepal
- 6.6 Health policies, facilities for differently abled people and security and legal issues
- 6.7 Challenges in managing disability and differently abled people in Nepal.
- 6.8 Concept and practices of palliative care in Nepal

5. Teaching learning activities

SN	Methods
1 - 6	Illustrative lecture, interactive and participatory T/L methods support by audiovisual materials, Group work and presentation, Concurrent field observation at disability rehabilitation centre

6. Evaluation Scheme**weightage**

1. External (University examination) 80%
2. Internal 20%
 - a. Written examination (two examinations) 50%
 - b. Class attendance 25%
 - c. Class presentation and home assignment 25%

Reading materials

1. Ministry of Health and Population, Nepal, FHD/DHS. National adolescent health and development strategy 2000.
2. WHO, NIH, 2011. Global Health and Ageing (https://www.who.int/ageing/publications/global_health.pdf)
3. Govt Nepal, UNFPA, UNICEF. 2014. Assessing Supply Side Constraints Affecting the Quality of Adolescent Friendly Services (AFS) and the Barriers for Service Utilization.
4. Government of Nepal, MoHP, Population Division. Nepal Adolescent and Youth Survey 2010/11

5. Govt of Nepal, MoHP, Department of Health Services. Annual Health Report, 2014-15
6. Govt Nepal, MoHP, Family Health Division, 2011. National Adolescent Sexual and Reproductive Health Program, Implementation guideline.
7. CDC, 2011. Healthy ageing: Helping people to live long and productive lives and enjoy a good quality life (Recent) (https://www.giaging.org/documents/CDC_Healthy_Aging_AA_G_508.pdf)
8. WHO, 2015. World report on ageing and health (recent) (https://apps.who.int/iris/bitstream/handle/10665/186463/9789240694811_eng.pdf)
9. WHO, 2014. Health of older people in selected countries of western pacific region (http://www.wpro.who.int/topics/ageing/health_of_older_people_in_selected_WPR_countries.pdf)
10. Healthy ageing in action (<https://www.cdc.gov/aging/pdf/healthy-aging-in-action508.pdf>)
11. WHO, 2017. Ten priorities towards of a decade of healthy ageing (<https://www.who.int/ageing/WHO-ALC-10-priorities.pdf>)
12. Government of Nepal, Ministry of Home Affairs, Survey Report on Current Hard Drugs Users in Nepal, 2069.
13. UNFPA, WHO, 2015. Sexual and Reproductive Health of Young People in Asia and Pacific: A review of issues, policies and program (http://202.170.94.91/publications/UNFPA_SHR_YP_AP_2015.pdf)
14. WHO, 2014. Health of the World's Adolescent: A second change in the second decade (http://apps.who.int/adolescent/second-decade/files/1612_MNCAH_HWA_Executive_Summary.pdf)
15. UNICEF, The state of world's children 2011: Adolescence an age of opportunity (https://www.unicef.org/adolescence/files/SOWC_2011_Main_Report_EN_02092011.pdf)
16. UNICEF, *the state of world's children 2013*, motherhood in childhood, facing the challenges of adolescent pregnancy: www.unicef.org

17. Government of Nepal, Ministry of Health and Population, 2011. *Nepal Adolescent and Youth Survey*: www.moHP.gov.np
18. Government of Nepal, MoHP, FHD 2000. *National adolescent Health and Development strategy*: www.moHP.gov.np

Purbanchal University
Faculty of Medical and Allied Health Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Public Health Epidemiology Method	
Second Year	Fourth Semester	Course Code: BPH 204.4 PHEM
Credit Hours: 3Cr (48 hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

Epidemiology is considered as one of the methodologies of public health. Therefore, public health practitioners should have clear concept of public health epidemiology and skills to apply it during assessment of public health service needs, intervention planning including estimation of public health human resources. Epidemiological skills are needed to apply during control of risk factors and disease outbreak. Public health practitioners should play their role during epidemic differently from medical practitioners. Therefore, this course has been designed to develop basic concept of public health epidemiology and its application among the prospective students who will be the future practitioners. Course includes basic concept of public health epidemiology and measurement of related variables, epidemiological study methods, outbreak investigation and epidemic control measures, surveillance among others.

3. Course Objectives

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

1. Describe concept of public health epidemiology.
2. Calculate and explain the measures of various concepts involved in epidemiology.
3. List and describe the characteristics of various observational and experimental methods used in epidemiological studies.
4. Define risk factors and disease outbreak.
5. List and describe various steps to be taken during investigation of an epidemic.

6. Explain the need for taking public health core actions and implementing public health interventions during epidemic.
7. Describe and appreciate the importance of risk factors and disease surveillance and sentinel system.

4. Course contents

Unit 1: Basic concept of public health epidemiology 8 hours

- 1.1 Review of concept of public health
- 1.2 Review of public health core actions (promoting health; preventing risk factors, accidents, disease; protecting health; controlling epidemics; encouraging for early detection, treatment and compliance to treatment)
- 1.3 Definitions of general (classical and modern) and public health epidemiology
- 1.4 Epidemiology as methodological tool for understanding public health phenomena and public health actions and intervention management
- 1.5 Epidemiological triad as applied to healthy population, risk factors and disease:
 - a. Occurrence of healthy populations, their distribution and determinants
 - b. Occurrence of health risk factors, accidents and their distribution and determinants
 - c. Occurrence of diseases, their distribution and determinants
- 1.6 Distinction between public health and medical epidemiology
- 1.7 Aims, functions, principles and scope of public health epidemiology
- 1.8 Meaning and scope of frequently used types of epidemiology in the field of public health:
 - a. Risk factor epidemiology
 - b. Disease epidemiology
 - c. Environmental epidemiology
 - d. Behavioral epidemiology
- 1.9 Meaning of frequently used terminologies in epidemiology: occurrence, incidence, prevalence, sporadic, endemic, epidemic, pandemic, prevention, control, elimination, eradication, investigation, surveillance

Unit 2: Measurement and calculation in public health epidemiology

13 hours

- 2.1 Indicators and measurement of healthy population i.e. population free from and prevented from exposure to risk factors, and disease (count, ratio, proportion),
- 2.2 Indicators and measurement of population at risk
 - a. Measure of effect of public health intervention/interaction in preventing exposure to risk factors and disease
 - b. Measure of risk factors of accidents and disease (count, ratio, proportion), incidence, prevalence
- 2.3 Indicators and measurement of unhealthy (disease or morbid) population:
 - a. Frequency: Count, ratio, proportion, rate
 - b. Incidence, cumulative incidence, incidence density, interrelation between cumulative incidence and incidence intensity
 - c. Prevalence, burden of disease (DALY, HALE, QALY)
 - d. Association: meaning and measurement
 - e. Causation: Meaning, causal association, types of causal association, and measurement
 - f. Risks: Meaning, relative and attributable risks, measurement
- 2.4 Measure of mortality: meaning, crude death rate, specific death rates, adjusted or standardized death rates and their measurement
- 2.5 Comparison of occurrence: meaning, importance, absolute comparison and relative comparison

Unit 3: Public health epidemiological studies

13 hours

- 3.1 Meaning of epidemiological study and its difference from general research
- 3.2 Importance of epidemiological study in relation to public health themes, core actions and interventions
- 3.3 Basic framework for epidemiological studies:
 - a. Epidemiological triad framework: Agent, host, environment
 - b. Person, frequency, time, place, cause, application framework
 - c. Determinants of good health and ill health
- 3.4 Meaning, process, unit of study, strengths, limitations and use of basic categories of epidemiological studies
 - a. Observational studies

- Descriptive studies: Cross sectional, cause study, correlational
 - Analytical studies: Ecological, case control, cohort
- b. Experimental: Field trial, community trial or community intervention studies
- 3.5 Criteria for selection of appropriate study method
- 3.6 Potential errors (random and systematic) or bias (selection and measurement) and confounding and their control in epidemiological studies

Unit 4: Risk factor and disease outbreak and epidemiological investigation-6 hours

- 4.1 Meaning, and characteristics of risk factors and disease (communicable and non-communicable) outbreak/epidemic
- 4.2 Meaning and need for investigation of epidemic
- 4.3 Steps in investigation of epidemic
- a. Becoming aware of the outbreak
 - b. Verification of outbreak
 - b. Defining the population at risk and those already affected by the outbreak
 - c. Screening: Meaning, types, use, process, including tests (sensitivity, specificity, positive/predictive value, likelihood ratio)
 - d. Collection of epidemiological data and their analysis and interpretation
 - e. Collection of laboratory samples and their analysis (if applicable)
 - f. Identification of associated and causal factors of the outbreak
 - g. Report preparation, dissemination and taking epidemiological decision

Unit 5: Applying public health knowledge and skills during outbreak 4 hours

- 5.1 Taking the public health core actions: prevention, protection through vaccinations, control (isolation and contentment), encouragement for early detection, treatment and compliance to treatment

- 5.2 Implementing public health intervention measures immediately: health education, policy and regulatory interventions, infrastructure building, community mobilization, emergency management focusing on the core actions
- 5.3 Extending cooperation for delivery of immediate medical care for the cases to prevent further expansion of epidemic

Unit 6: Public health surveillance and sentinel sites **4 hours**

- 6.1 Meaning and definition of public health surveillance
- 6.2 Purpose and processes of surveillance of healthy, at risk and unhealthy populations (disease surveillance)
- 6.3 Meaning and definition of public health sentinel sites
- 6.4 Purpose and processes of sentinel sites system
- 6.5 Understanding status, trend, and prediction of public health themes: such as nutrition, life style behaviors, environmental risks, diseases
- 6.6 Predicting outbreak, early warning and response system on the basis of surveillance and sentinel system with particular reference to Nepal

5. Teaching-Learning Activities

Unit	Method/media
1-6	Interactive lecture and participatory methods supported by audiovisual materials and equipment, group discussion, Individual and group assignment followed by presentation, A case study of recent disease outbreak in Nepal and government and non-government responses to the outbreak

6. Evaluation Scheme

weightage

- | | |
|---|-----|
| 1. External (University examination) | 80% |
| 2. Internal | 20% |
| a. Written examination (two examinations) | 50% |
| b. Class attendance | 25% |
| c. Class presentation and home assignment | 25% |

Reading materials

1. Beaglehole, R, R.Bonita, T. Kijelstrom, Basic Epidemiology, Geneva: Orient Longman, 1993
2. Gordis, Leon, Epidemiology, Philadelphia: Saunders, 2004
3. Rthman, Kenneth J; Sander Greenland, and Timothy L. Lash. Modern Epidemiology, Philadelphia:Lippincott Williams and Wilkins, 2008
4. Joshi, AB and MR Banjara. Fundamentals of Epidemiology, KATHMANDU: Institute of Medicine
5. Jørn Olsen · Kaare Christensen · Jeff Murray. Anders Ekbohm, 2010.an *Introduction to Epidemiology for Health, Professionals*, Springer Series on Epidemiology and Health
6. Raj S. Bhopal, Concepts of Epidemiology: *An integrated introduction to the ideas, theories, principles and methods of epidemiology*, OXFORD UNIVERSITY PRESS,
7. W. Ahrens, I. Pigeot, 2005, *Handbook of Epidemiology*, Springer Publication
8. Victor J. Schoenbach, Wayne D. Rosamond, *Understanding the Fundamentals of Epidemiology an evolving text*, 2000 Chapel Hill, North Carolina,
9. CDC, 2012. *Principles of Epidemiology in Public Health Practice*, Atlanta
10. Richard C. Dicker, *Principles of Epidemiology, second edition*,
11. Neil Pearce, 2005. *A Short Introduction to Epidemiology, Second Edition*
12. WHO, 2009. *Application of Epidemiological Principles for Public Health Action Report of a Regional Meeting* SEARO, New Delhi

PurbanchalUniversity
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Sociology, Anthropology and Social Psychology in Public Health	
Second Year	Fourth Semester	Course Code: BPH 204.5 SASPPH
Credit Hours: 3Cr (48 Hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

Cultural, social and psychological factors are increasingly affecting public health practices. Public health practitioners can-not ignore these factors during community diagnosis, program planning and implementation and even during assessment of the results of public health efforts. The success of public health efforts greatly depends on the way people behave and adopt desired health practices and such practices are influenced by their cultural, social and psychological makeup. Therefore, this course under public health methodology strand is designed to help students develop a basic concept of public health behavior sciences borrowing some aspects of sociology, cultural anthropology and social psychology. It is anticipated that students completing this course will be able to discuss behavior sciences contribution to public health practices including diagnosis of public health thematic issues, public health program planning, implementation and assessment, course includes concept of behavior science in the context of public health, anthropological, psychological aspects of health behavior and their application in public health professional practice.

3. Course Objectives

By the end of the course students will be able to:

1. Define the human behavior and their types and levels
2. Define various components /traits of public health sociology, anthropology and social psychology
3. Differentiate between public health sociology and anthropology with those of medical sociology and anthropology.

4. List and describe health and disease related cultural, social and social psychological components /traits prevalent in Nepalese communities
5. Describe the ways the cultural, social and social psychological components /traits are used during community diagnosis, public health intervention planning, implementation and assessment
6. Highlight the need for plan, changes in health and disease related cultural, social and psychological practices

4. Course Contents

Unit 1: Introduction to public health behavior

7 hours

- 1.1 Meaning and definition of human behavior
- 1.2 Types and level of human behavior
 - a. Types: reflex behavior, conscious behavior and rational behavior
 - b. Levels: cognitive level (knowledge), affective level (attitude/feeling) and psychomotor level (practice/action)
- 1.3 Review of meaning of health and disease, and public health and medicine
- 1.4 Definition of health and medical related behaviors
 - a. Health behavior: Behaviors as behaviors that help individuals to stay health without becoming sick or diseased
 - b. Description of types of health behavior: health promoting behavior, health risk, accidents, and disease or illness preventing behavior, health protecting behavior, epidemic controlling behavior, health screening behavior
 - c. Medical behaviors: Behaviors as behaviors that help sick or diseased individuals to get cured
 - d. Description of types of medical behaviors: early detecting behavior, early treatment behavior, full treatment enhancing behavior (compliance to treatment procedures)
- 1.5 Public health concern of adoption of favorable health behavior to stay healthy
- 1.6 Meaning of behavior sciences

- 1.7 Branches of behavior sciences from public health perspectives: public health anthropology, public health sociology and social psychology

Unit 2: Public health sociology

12 hours

- 2.1 Definition of sociology and public health sociology and its differences from medical sociology
- 2.2 Components/traits of sociology and their meanings
 - a. Social stratification
 - b. Ethnicity/ caste
 - c. Family structure
 - d. Group dynamics
 - e. Social norms
 - f. Social conflicts and coherence
 - g. Political system
 - h. Urban rural strata
- 2.3 Brief overview of the pertinent various components/traits of sociology in relation to the following selected health and disease related themes: prevalent in the Nepalese communities
 - a. Production, preparation and consumption of foods (nutrition)
 - b. Air, water, living space, waste handling including disposal of human excreta
 - c. Life styles including alcohol, tobacco and substance abuse
 - d. Menstruation, marriage, sexuality
 - e. Conception, pregnancy, abortion, child birth, new born and maternal care
 - f. Immunization
 - g. Use of contraceptives (family planning)
 - h. Cause and treatment of Sickness/diseases
- 2.4 Description of the ways how the various traits/components of sociology (*mentioned in 3.2*) affect health promoting behavior, health risk, accidents, and disease or illness preventing behavior, health protecting behavior, epidemic controlling behavior, health screening behavior

Unit 3: Public health anthropology

12 hours

- 3.1 Definition of cultural anthropology and public health cultural anthropology and its differences from medical anthropology
- 3.2 Components/traits of cultural anthropology and their meanings
 - a. Taboos
 - b. Festivals
 - c. Ceremonies
 - d. Rituals
 - e. Artifacts (ritualistic, aesthetic, common use, modern technological gadgets)
 - f. Customs
 - g. Beliefs
 - h. Folk ways
 - i. Religious performances
 - j. Traditions
- 3.3 Brief overview of the pertinent various components/traits of cultural anthropology in relation to the following selected health and disease related themes: prevalent in the Nepalese communities
 - a. Production, preparation and consumption of foods (nutrition)
 - b. Air, water, living space, waste handling including disposal of human excreta
 - c. Life styles including alcohol, tobacco and substance abuse
 - d. Menstruation, marriage, sexuality
 - e. Conception, pregnancy, abortion, child birth, new born and maternal care
 - f. Immunization
 - g. Use of contraceptives (family planning)
 - h. Cause and treatment of Sickness/diseases
- 3.4 Description of the ways how the various traits/components of cultural anthropology (*mentioned in 2.2*) affect health promoting behavior, health risk, accidents, and disease or illness preventing behavior, health protecting behavior, epidemic controlling behavior, health screening behavior

Unit 4: Public health social psychology

12 hours

- 4.1 Definition of social psychology and public health social psychology
- 4.2 Components/traits of social psychology and their meanings
 - a. Mass /group perception
 - b. Mass/ group cognition
 - c. Mass/group motivation
 - d. Mass/group/ sentiment and emotions
 - e. Public opinion
 - f. Group persuasion
 - g. Stereotypes
- 4.3 Brief overview of the pertinent various components/traits of social psychology in relation to the following selected health and disease related themes prevalent in the Nepalese communities
 - a. Production, preparation and consumption of foods (nutrition)
 - b. Air, water, living space, waste handling including disposal of human excreta
 - c. Life styles including alcohol, tobacco and substance abuse
 - d. Menstruation, marriage, sexuality
 - e. Conception, pregnancy, abortion, child birth, new born and maternal care
 - f. Immunization
 - g. Use of contraceptives (family planning)
 - h. Cause and treatment of Sickness/diseases
- 4.4 Description of the ways how the various traits/components of social psychology (*mentioned in 4.2*) affect health promoting behavior, health risk, accidents, and disease or illness preventing behavior, health protecting behavior, epidemic controlling behavior, health screening behavior

Unit 5: Application of knowledge and skills of cultural sociology, anthropology and social psychology during the following public health practices

5 hours

- 5.1 Identifying need for change in cultural, social and psychological health behaviors in planned ways
 - a. Maintaining/and promoting favorable health behaviors

- b. Changing or modifying the unfavorable health behaviors
- 5.2 Identifying various measures for maintaining and/promoting favorable health behaviors and changing or modifying unfavorable health behaviors
- 5.3 Application of education, empowerment, legal and community participation measures to change health behaviors taking into consideration of cultural/ social and psychological factors
- 5.4 Community health diagnosis or assessment in relation to culture, sociological and psychological phenomena of the community
- 5.5 Diagnosis based identification and carrying out core public health actions such as promoting health, preventing health risk factors, injuries and diseases, protecting health, controlling epidemics and encouraging people for early detection and treatment of sickness and diseases
- 5.6 Diagnosis based planning and implementation of public health intervention programs, such as health education, health promotion, policy and legal measures, community organization, infrastructural construction, managerial intervention, implementation of the intervention plan.

5 Teaching-learning activities

Unit	Method
1 - 5	Short lecture-discussion, individual or group assignment and presentation, case study presentation, document review, document show, field observation, library search, group discussion

6 Evaluation Scheme

	<u>Weightage</u>
1. External (University examination)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Readings

1. Mehata , Manju Behavioural Science in Medical Practice (part-2), basis of behavior, New Delhi: Jyapee Brothers Medical Publishers(p ltd.)
2. Foster , G.M. and Anderson , B .G.Medical Anthropology New York: John Wiley and Sons
3. Sociology of Health and Illness,
<https://pdfs.semanticscholar.org/1f3f/fa24aea27835e93a558d9f1f9482d4247476.pdf>
4. Esther Jean Langdo, F. BrauneWiik, *Anthropology, Health and Illness: an Introduction to the Concept of Culture Applied to the Health Sciences*; Rev. Latino-Am. Enfermagem 2010 May-Jun; 18(3):458-65.<http://www.scielo.br/pdf/rlae/v18n3/23.pdf>
5. David Mechanic, *Sociology and Public Health: Perspectives for Application*:
<https://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.62.2.147>
6. August B. Hollingshead, *Medical Sociology: A Brief Review*:<https://www.milbank.org/wp-content/uploads/mq/volume-51/issue-04/51-4-Medical-Sociology-A-Brief-Review.pdf>
7. Lynn Sikkink, *Medical Anthropology in Applied Perspective*:https://www.cengage.com/custom/enrichment_module_s.bak/data/049510017X%20_MedicalAnthroMod_watermark.pdf

Purbanchal University
Faculty of Medical and Allied Health Sciences
Bachelor of Public Health

1. Preliminary

Course Title	Rural, Urban and International Health	
Third Year	Fourth Semester	Course Code: BPH 204.6 RUIH
Credit Hours: 3Cr 48hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

Prevalence of health and disease issues and measures to mitigate them differ by rural-urban and international strata. Public health and medical interventions also differ by these strata. Therefore, public health practitioners should have clear concept of variations in causes, nature and intervention modalities of the health and medical issues by differences in these strata. This course intends to provide students with basic knowledge and skills required to deal with public health actions and interventions in rural and urban settings considering the national responses to international health efforts.

3. Course Objectives

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

1. Describe the meaning of rural, urban and international health.
2. Identify rural and urban health issues and service needs by appraising the health and medical condition and their determining factors.
3. Describe rural and urban public health and medical service facilities and national and international health organizations.
4. Describe international health movements and their effects on national public health and medical care system.
5. Enumerate the expected outcomes of rural, urban and international public health interventions.
6. Appreciate the uniqueness of public health efforts to be taken in rural, urban and international settings.

4. Course Contents

Unit 1: Rural public health

10 hours

- 1.1 Need for developing specific public health perspective to work in rural settings
- 1.2 Definition of rural settings including operational meaning of village municipalities in Nepal
- 1.3 Social, cultural, economic, occupational, geographical characteristic of rural communities and their relation on the health.
- 1.4 Factors affecting rural-urban migration (push-pull factors) and its effect on rural lives with particular instances of Nepal
- 1.5 Strength of rural setting in promoting public health
- 1.6 Adverse effect on health risk and disease in urban areas such as inadequate and contaminated water supply, inadequate access to sanitation, adverse climate, rural violence, physical work-pressure, loss of productive population due to international labour migration, insecure residential status, poor structural quality of housing, inadequate access to public health medical facilities
- 1.7 Major health and disease issues in rural setting and their determinants such as cultural, social, industrial, economic, political, environmental
- 1.8 Rural health appraisal and identification of nature of public health and medical care demand in rural setting
- 1.9 Overview of government, NGOs and private sector public health and medical care services to meet the public health and medical care demand in rural settings
 - a. Primary health care and essential health care through health facilities
 - b. Public health and medical care related services of health section of Rural Municipalities
 - c. Role of Rural Municipalities in preventing disease and promoting the health of rural population.
- 1.10 Expected outcomes of public health services in the rural settings such as healthy village dwellers, healthy village, growth of rural economy

Unit 2: Urban public health

10 hours

- 2.1 Definition of urban health and prospect for health such as easy access to healthy living information, food availability relatively comfortable living, early detection facilities, relatively safe water and sanitation facilities
- 2.2 Need for developing specific public health perspective to work in urban settings
- 2.3 Definition of urban settings including operational meaning of municipalities in Nepal
- 2.4 Meaning of urbanization and characteristic of urban communities
- 2.5 Process and measures of urbanization
- 2.6 Factors affecting urbanization including rural-urban migration (pull-push factors) with particular instances of Nepal
- 2.7 Strength of urban setting in promoting public health
 - a. Accountability of Health service
 - b. Accountability of Health Information
 - c. Accountability of Water/sanitation
- 2.8 Adverse effect of urbanization in health, accidents and disease in urban areas such as inadequate water supply, waste generation and disposal, pollutions, inadequate access to sanitation, adverse climate, violence, work-pressure, stress, over crowding, insecure residential status, poor structural quality of housing, substance abuse, stressful living
- 2.8 Urbanism and major health and disease issues in urban setting and their determinants such as cultural, social, industrial, economic, political, environmental
- 2.9 Urban health appraisal and identifying nature of public health and medical care demand in urban setting
- 2.10 Overview of government, NGOs and private sector public health and medical care services to meet the public health and medical care demand in urban settings
- 2.11 Purpose and characteristics of public health services to be delivered in urban setting
- 2.12 Expected outcomes of public health services in the urban settings such as healthy city dwellers, healthy city, growth of urban economy
- 2.13 Role of municipality in preventing disease and promoting health of urban population.

Unit 3: Overview of strategies of public health services in a typical rural and urban settings - 10 hours

- 3.1 Advocacy of public health perspective in the urban and rural municipalities for establishment of public- health focused section/unit and program plan
- 3.2 Incorporation of public health core actions (promotive, preventive, protective, control and encouragement for early detection and treatment of diseases) and intervention, such as educational policy-regulatory, infrastructural, community organizational and managerial interventions in municipal health plans supported by human resources for implementation
- 3.3 Mobilization of local clubs and organizations
- 3.4 Inter-organizational coordination, cooperation and resource mobilization
- 3.5 Excessive use of local (specifically in rural setting) and mass media (specifically in urban setting)
- 3.6 Establishment of public health service centers at wards
- 3.7 Special roles and functions of public health practitioners at the local health and medical service centers in the rural and urban settings

Unit 4: International public health 18 hours

- 4.1 Need for developing specific public health perspective to international health: global aspirations regarding health and disease
 - a. Global aspiration on health: healthy world population; healthy planet; health as fundamental human rights
 - b. Universal coverage of health services
 - c. Concept of global philosophy on *Sarbajanahitaya* (Universal good for world people; *SarbajanaSukhhaya* (Universal happiness)
- 4.2 Definition of international health, international public health and synonymous term global health
- 4.3 Characteristics of international health
- 4.4 Historical background of international public health movement
- 4.5 Significant forces affecting to international health
- 4.6 Current international health issues demanding global public health actions

- 4.7 International public health actions:
 - a. Enhancement of health promoting actions such as: Lifestyle change global efforts
 - b. Risk factors and disease prevention efforts such as: global accident prevention; global tobacco control including Framework Convention on Tobacco Control, environmental pollution prevention efforts; global consciousness raising on global warming and climate change prevention; global efforts on violence reduction
 - c. Health protection efforts such as, Universal immunization, eradication of polio, measles through immunizations
 - d. Control of pandemics such as HIV/ AIDs; Viral influenza (H1N1)
- 4.8 Overview of international health movements and their implications in national health policy, strategy and programs
 - a. Health for All Strategy (Alma Ata Declaration)
 - b. Primary Health Care Movement: Need, strategies, essential elements, obstacles (selective primary health care strategy) to and revitalization efforts
 - c. Health Promotion Strategy (Ottawa Charter)
 - d. MDG Goals
 - e. Sustainable Development (Health components)
- 4.9 Overview of international cooperation and actors for health and medical services with particular reference to Nepal cooperation
 - a. Introduction to :World Health Organization; UNFPA; UNICEF; UNDP; World Bank, FAO
 - b. Introduction to bilateral organizations: such as USAID, JAICA, Indian Aid Mission, DFID, GIZ
- 4.10 Introduction to International Non-Governmental Organizations
- 4.11 Influence of international health movements and international health actors in national public health service and medical care systems: An overview of strengths and limitations
- 4.12 Globalization and affect on public health:
 - a. Globalization and food-nutrition

- b. Globalization and emerging infectious globalization of pharmaceutical industries and health and medical care dilemmas diseases
 - c. International capital economy (privatization) and its effects in health status of world people and particularly on the people of under developed world; effect of capital economy on public health actions and interventions
- 4.13 Westernization of public health strategies in the under development countries in the banner of globalization of health: A critical review of strengths and weakness
- 4.14 Highlights of achievements in international efforts in health and medicine
- a. Enhancement of international networks
 - b. Eradication of some vaccine preventable diseases
 - c. Lifestyle change movement particularly in developed countries
 - d. Framework Convention on Tobacco Control: National incorporation of the convention
 - e. Collaborative research in health and medical technology
 - f. Global response to pandemics such as HIV/AIDS
 - g. Provision of Global Funds for AIDS, malaria and tuberculosis
 - h. International efforts to enhance Public Health

5. Teaching-Learning Activities

	Method/media/materials
1-4	Interactive lecture and participatory methods, use of audiovisual materials and equipment, group discussion, individual and group assignment followed by presentation

6. Evaluation Scheme

	<u>weightage</u>
1. External (University examination)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading materials

1. Government of Nepal
2. Park, John, A Textbook of Preventive and Social Medicine
3. Lee, Kelly, Jeff Collin, Global Change and Health New Delhi: Tata McGraw-Hill Publishing Company Limited, 2007
4. Department of Health Services, Annual Report, Kathmandu: Department of Health Services (Recent Report)
5. WHO 1981, Global strategy for Health for All by the 2000,
6. WHO 2010, why urban health matters:
<http://www.who.int/world-health-day/2010/media/whd2010background.pdf>
7. WHO, Health in An Urban Context:
http://www.who.int/kobe_centre/publications/hiddencities_media/ch2_who_un_habitat_hidden_cities.pdf
8. WHO 2011, Addressing the Health of Urban Poor in South East Asia Region: Challenges and Opportunities;
http://apps.searo.who.int/PDS_DOCS/B4755.pdf
9. WHO/UNICEF 1978, Primary Health Care, report of Alma-Ata Conference on PHC
10. Elena Andresen, Erin Defries Bouldin, Public Health Foundations, concept and practice, 2010, published by Jossey-Bass, San Francisco, CA
11. Virginia Berridge, Martin Gorsky & Alex Mold; Public Health in History, 2011, Open University Press
12. Lloid F. Novick, Glen P. Mays. *Public Health Administration, Principle for population based Management*, AN Aspen Publication, USA 2001.
13. Ramjee Prasad Pathak, Ratna Kumar Giri, *A textbook of public health and primary health care development, First edition, 2007*, Vidyarthi Prakashan (p) Ltd, Kathmandu,
14. Detels, Roger, James McEwen, Robert Beaglehole, Heizo Tanaka, *Oxford Textbook of Public Health (4th ed.)* Oxford University Press, Oxford 2004.
15. WHO, Ottawa Charter for Health Promotion, 1986: www.who.org
16. WHO, Technical Briefing on Millennium Development Goals (MDGs): Progress and Major Challenges: www.who.org

17. Government of Nepal, National Planning Commission, Nepal Millennium Development Goals Progress Report 2013: www.npc.gov.np
18. WHO, UNICEF 1978. Report on International Conference on Primary Health Care, Alma-Ata, USSR 1978: www.who.org
19. WHO 2008. The World Health Report 2008, Primary Health Care -Now More Than Ever: www.who.org
20. WHO, UNICEF 2018. A vision for Primary Health Care in the 21st Century, a technical series on primary health care: www.who.org

Purbanchal University
Faculty of Medical and Allied Health Sciences
Bachelor of Public Health

Reproductive Health and Gender – Concurrent Field Based Practice

1. Preliminaries

Course title	Reproductive Health and Gender – Concurrent Field Based Practice	
Second Year	Fourth Semester	Course Code: BPH 204.1 RHG - CFBP
Credit hours: 1Cr (32hrs.)	Full marks: 50	Pass marks: 30

2. Course Description

This course is designed to impart the theoretical knowledge of the students towards identifying the major reproductive health as well gender & health promotion activities implemented by different CBO, NGOs, INGOs, and HP/PHC. Students visit different governmental and non-governmental organizations in a small group, interact with concerned people, explore the reproductive health and gender & health related issues, program and activities. Students conceptualize the reproductive health and gender health problems in Nepal. Students will also assess whether the CBOs/NGOs/INGOs are focusing the Nepal government's policy, plan, objective, strategies, activities for promoting reproductive health and gender.

3. Objectives

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

- To understand about the reproductive health and gender health issues/problems
- To explore different components of reproductive health and gender health related activities implemented by governmental and non-governmental organizations.
- To assess governmental policy and program related with reproductive health and gender health issues in Nepal.

4. Field based practice procedures

a) Visit NGO/INGOs or HP/PHCs

- Students work on a team of 4-5 people and concerned subject teacher guide the students to perform the task.
- Students visit to NGO/INGOs or HP/PHCs and interact and collect the information about the reproductive health and gender related service provisions, services types, RH problems, service challenges, factor influencing the reproductive health. Students also explore the organization's goal, objectives, strategies, activities and achievement of visited institutions regarding to reproductive health and gender. Students also explore the issues of reproductive health and gender considering the different components. They also discussed the government's policy, strategy and activities on the reproductive health and gender.
- Each team of students needs to develop information collection tools or guidelines before visiting the organizations.
- Students prepare a brief report and make a presentation of their works.
- The subject teacher guide the students throughout the process of practical works

5. Maintain process of practical work

- Individual team prepare the report and submit to department within 2 weeks
- All reports should be signed by respective teacher
- All student must bring report in the final practical examination
- Final examination is based on field work

6. Evaluation scheme

weightage (50 marks)

- | | |
|---|-----------|
| a. Attendance in practical class and performance: | -10 marks |
| b. Presentation and submission of report: | -10 marks |
| c. Final Evaluation | -30 marks |

Epidemiology of Non-communicable Diseases and Mental Health - Term Paper Preparation

2. Preliminaries

Course title	Epidemiology of Non-communicable Diseases and Mental Health - Term Paper Preparation	
Second Year	Fourth Semester	Course Code: BPH 204.2 ENCDMH-TPP
Credit hours: 1Cr (32Hrs)	Full marks: 50	Pass marks: 30

2. Course Description

Non-communicable diseases (NCDs), also known as chronic diseases, are inclined to be of long duration and are the result of a combination of genetic, physiological, environmental and unfavorable lifestyles. These diseases are driven by forces that include rapid unplanned urbanization; globalization of unhealthy lifestyles, unhealthy eating pattern, and lack of physical activity may show up in people as raised in blood pressure, increased blood glucose, obesity including mental disorders. As a public health professional, students need to identify the important risk factors and various preventive measures to avoid these diseases.

3. Objectives

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

- To understand about the non communicable diseases and mental disorder
- To identify different non-communicable and mental disorders and the important risk factors.
- To find various public health measures to prevent non-communicable diseases and mental disorders.
- To understand different governmental and non-governmental efforts regarding preventing non-communicable and mental disorders.

4. TPP Procedures

For the completion of this practical session students will have to prepare and submit a term paper based on following instruction:

- Each student will be assigned a separate topic as Term Paper Presentation (TPP). The topics will be related on non-communicable disease, mental disorders and risk factor prevention, government strategy for preventing NCDs and mental disorders.
- Students review the articles/documents on related topic (literature review) and explore the problems intensity, risk factors, and preventive measures particularly in the context of Nepal. Students can visit and receive necessary data from health institutions that provide NCD and mental health service.
- Each student prepares a presentation and present at college with focusing on intensity of problems, risk factors, and preventing strategy.
- The subject teacher guide the students for selecting topic, prepare presentation and paper writing.

5. Maintain process of practical work

- Individual student write term paper report and submit to department
- All reports should be signed by respective teacher
- All student must bring report in the final practical examination
- Final examination is based on TPP work

6. Evaluation scheme weightage (50 marks)

- a. Attendance, disciplines and performance: - 10 marks
- b. Presentation at college and report submission - 10 marks
- c. Final Evaluation (viva): - 30 marks

Purbanchal University
Faculty of Medical and Allied Health Sciences
Bachelor of Public Health

Family Health -II - Concurrent Field Based Practice

1. Preliminaries

Course title	Family Health –II - Concurrent Field Based Practice	
Second Year	Fourth Semester	Course code: BPH 204.3 FH-II-CFBP
Credit hours: 1Cr (32hrs)	Full marks: 50	Pass marks: 30

2. Course descriptions

The field based practice course is to impart practical skill for students through necessary field work in particular subject. Students will perform one day concurrent field visit at old age home or adult rehabilitation centers or adolescents friendly health facilities. Alternatively, students will visit at the community and interact with elderly people and adolescents about their health problems and service utilization. Students collect data & information on physical and mental health, behavioral, economic and social factors associated with old age health problems/youth/adolescents health problems. In this process, students will perform the task in a team of 4-5 members.

3. Objective

At the end of the course, students will acquire practical knowledge and required skill on the assessment of adolescent health and elderly health problems under the guidance and direction of the course facilitator.

4. Field based practice procedures

a) Visit old age home or youth rehabilitation center or adolescent friendly health clinics or community:

- Students work in a small team of 4-5 members and prepare necessary tools before concurrent field visit.

- Students do one day concurrent field visit in old age home or youth rehabilitation center or adolescent friendly health facilities. Alternatively students can visit at community, if not available of old age home or youth rehabilitation center or adolescent friendly health facilities. Students will interact with elderly people/youth/adolescents, discuss on their health problems and service utilization. Students collect data & information on physical and mental health, behavioral, economic and social factors associated with old age health problems, youth and adolescent health problems.
- Concerned teacher orient the students (objectives, field work process, site selection, tools development, data collection, presentation, report writing etc).
- Individual team review the information, do presentation at college, write report and submit report to the public health department

5. Maintain process of practical work

- Individual team prepare the report and submit to department
- All reports should be signed by respective teacher
- All student must bring report in the final practical examination
- Final examination is based on field work

6. Evaluation scheme weight age (50 marks)

- | | |
|---|-----------|
| a. Attendance, disciplines, and performance | -10 marks |
| b. Presentation and submission of report | -10 marks |
| c. Final Evaluation (viva) | -30 marks |

Purbanchal University
Faculty of Medical and Allied Health Sciences
Bachelor of Public Health

Public Health Epidemiology Method - Concurrent Field Based Practice

1. Preliminaries

Course Title	Public Health Epidemiology Method - Concurrent Field Based Practice	
Second Year	Fourth Semester	Course Code: BPH 204.4 PHEM-CFBP
Credit Hours: 1Cr (32 hrs)	Full Marks: 50	Pass Marks: 30

2. Course description

The field based practice is a course designed to equip the students with practical skills required to do necessary epidemiological assessment by using health institution service record data. Students will visit the health institutions (HP/PHC or hospital and get the service data of 3 years concerning communicable and non- communicable disease. Then students perform epidemiological study using available data. Students will acquire practical knowledge and skill for critical analysis of raw epidemiological data.

3. Objective

Upon the successful completion of the course, students will able to perform epidemiology study by using health institution's or hospital record data.

4. Filed based practical procedures

a) Epidemiological study: students will do epidemiological study by using secondary data of HP/PHC or hospital.

- Students work in a group of 4-5 people
- Each team visit to HP/PHC or hospital and review the recorded/reported data related to communicable or non-

communicable disease at least three year's period. Each group visit separate health facilities or hospitals.

- With review the service record, students select one or two of top most disease/ health problems. Selection of disease or problems depends up on the place/ geography.
- Students do study on the epidemiological prospective by reviewing the data of selected disease/health problems. Students need to apply specific epidemiological method.
- Before visiting health institutions, students need to develop suitable tools/forma of data gathering/reviewing before HP/PHC or hospital visit
- Prepare study report and present at college by each team
- The subject teacher guides the students throughout practical period.

5. Maintain process of practical work

- Student need to write report by individual group
- All reports should be signed by respective teacher
- All student must bring report in the final practical examination
- Final examination is based on practical work

6. Evaluation scheme

weightage (50 marks)

- | | |
|---|-----------|
| a. Attendance, discipline and performance | -10 marks |
| b. Presentation and submission of report | -10 marks |
| c. Evaluation (viva) | -30 marks |

Third Year Fifth Semester

PurbanchalUniveristy
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Public Health Statistics and Computer Application - I	
Third Year	Fifth Semester	Course code: BPH 305.1-PHSCA-I
Credit Hours: 3Cr (48Hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

This course is designed to develop the student's skills on the basic statistics used in community health diagnostic studies and public health research. It also intends to develop understanding of key concepts involved in descriptive statistics, process of calculating them, decide use of appropriate descriptive statistics and interpret the data and their outcomes.

3. Course Objectives

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

1. Describe and apply statistical concepts and knowledge in planning, implementing and monitoring public health programs
2. Describe descriptive statistics
3. Describe the concept on probability and probability distribution.
4. Describe different search engines.

4. Course Contents

Unit 1: Introduction to statistics

4 hours

- 1.1 Need for studying statistics by public health practitioners
- 1.2 Definitions of statistics and public health statistics
- 1.3 Distinction between public health statistics, biostatistics, and medical statistics
- 1.4 Types (descriptive and inferential), function, limitations and characteristics of public health statistics.

- 1.5 Uses and application of public health statistics as a tool in community health diagnosis, public health research, medical record analysis for morbidity and mortality trends and overall managerial decision-making.

Unit 2: Descriptive statistics

22 hours

- 2.1 Definition, scope and uses of descriptive statistics
- 2.2 Limitation of descriptive statistics
- 2.3 Basic concept of variables, types of variables (discrete and continuous variables), **scales of measurements**
- 2.4 Data Collection
- Collection and recording of statistical information on public health and its related fields from primary and secondary sources
- 2.5 Presentation of statistical data
- 2.6 Classification and Tabulation of data: frequency distribution and different types of tables (one way, two way).
- 2.7 Diagrammatic and graphic presentation of data: Bar diagram (simple, multiple, subdivided), **pie chart, map diagram,** pictogram, histogram, frequency polygon, frequency curve, cumulative frequency curve, line chart, scatter diagram, stem- and-leaf plots, **whiskers box-plot**
- 2.8 Measures of central tendency
- Meaning, calculation including formula, interpretation and uses of central tendency
 - Range, Mean, Median and Mode and identify the ideal averages, requisites and its merits and demerits
 - Calculation of difference between two means.
 - Different partition values (quartiles, deciles & percentiles) and its uses.
- 2.9 Measures of dispersion (variability)
- Quartile deviation, mean deviation, standard deviation, standard error, variance and coefficient of variation and identify the ideal dispersion, requisites and its merits and demerits
 - Measures of skewness and kurtosis.

Unit 3: Basic probability**10 hours**

- 3.1 Concept of set theory, factorial, permutations, combinations,
- 3.2 Concept of probability, its terminology and different types of definition
- 3.3 Laws of probability: addition law, multiplication law and conditional probability
- 3.4 Bayes's theorem, screening tests, sensitivity, specificity and predictive value positive and negative

Unit 4: Probability distribution**12 hours**

- 4.1 Random variables: discrete and continuous variables
- 4.2 Probability distribution and its types.
- 4.3 Introduction of Binomial, Poisson and Normal probability distribution and its properties and application, parameters and mean and variance; numerical exercises.

5. Teaching Learning Method

Unit	Methods
1-5	Class lectures, review of journal, practical problem-solving sessions, articles on use of statistical methods, class room exercise,

6. Evaluation Scheme**Weightage**

- | | | |
|-------------|---|-----|
| 1. External | 1. External (University examination) | 80% |
| 2. Internal | | 20% |
| | a. Written examination (two examinations) | 50% |
| | b. Class attendance | 25% |
| | c. Class presentation and home assignment | 25% |

Readings Materials

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. K.S. Negi., Biostatistics. AITBS publisher, India 2008.

3. Pagano Marcello and Gauvreau Kimberlee, Principles of Biostatistics, Cengage Learning aindia Private Ltd, New Delhi, 2008
4. Rosner Bernard, Fundamentals of Biostatistics, Duxbuey Thomson Learning, seventh edition, 2010
5. Wayne W. Daniel. Biostatistics A foundation for analysis in the health sciences, Wiley India(P) Ltd, New Delhi, 2007
6. Panta P.P. Biostatistics, Vidyarthi PustakBhandar, Bhotahity, Kathmandu, 2011
7. Mahajan BK "Method in Biostatistics" Smt. Indu Mahajan Pusa Road, New Delhi, latest

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health program

1. Preliminaries

Course Title	Community Organization, Participation and Action	
Third Year	Fifth Semester	Course Code: BPH 305.2 COPA
Credit Hours: 3Cr (48hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

The crest of public health practitioners work lies on working in and with the community as public health is population-based and collective venture. For working in and with the community the practitioners should have sound knowledge and adequate skills of community organization, participation and action. Therefore, this course is designed to equip the students with conceptual clarity of principles of working in the community by organizing community groups and soliciting their participation for taking public health actions through various interventions. By assuming various roles and carrying out the pertaining functions the students in their practice position will be able to plan, implement and evaluate community-based public health action programs by incorporating community-participation approaches. Course includes concept of principles, processes and outcomes of community organization, participation and actions.

3. Course objectives

Upon the successful completion of the course the students should be able to:

1. Describe concept of community in the context of public health intervention programs
2. Appreciate the oriental premises of working in the community (Buddha, Dharma and Sangha)
3. Identify roles and functions of public health practitioners/workers while working in the community on the

- basis of principles of community organization, participation and action
4. Define community organization, participation and actions and their processes
 5. List and explain basic phases of working in the community
 6. Describe community group dynamics and the way it affects the processes of community participation and actions for public health interventions
 7. Describe the concept and process of community organization and mobilization for public health action and interventions
 8. Describe the concept and processes of soliciting community participation and action for public health actions and interventions
 9. Highlight the government and NGOs' strategies and ways of working with the community on the basis of community organization, mobilization and participation principles in Nepal
 10. Explain the public health intervention impact and outcomes to be brought about by participatory program interventions in the community

4. Course contents

Unit 1: Introduction to community-based public health intervention 12 hours

- 1.7 Highlight of role and functions of public health practitioners regarding community-based public health intervention including community organization, participation and action (COPA)
- 1.8 Meaning of intervention, definition of community-based public health intervention and its population-based and collective effort nature, principles of public health intervention
- 1.9 Some mode of community-based public health interventions:
 - a. Public health education intervention
 - b. Community enabling (health promotion) intervention
 - c. Policy-regulatory intervention
 - d. Public health infrastructure development intervention
 - e. Management intervention
- 1.10 Definition, elements, structure and general characteristics of community

- 1.11 Types of community and their consideration in public health work
 - a. Type by stratum: Rural, semi-urban and urban and their characteristics
 - b. Type by culture and its characteristics
 - c. Type by setting: Neighborhood, schools, factories, business houses, open markets, special purpose groups, clubs etc.
- 1.12 Health and health service improvement as a part of overall community development (social, economic, political development)
- 1.13 Understanding and application of The Three Oriental Nobel Principles (*Buddha, Dharma and Sangha*) as premise for public health work (intervention) in the community
 - a. ***Buddha Principle*** (Acquiring highest attainable knowledge on public health}
 - b. ***Dharma Principle*** (Assuming public health virtue as a pakka public health practitioner must assume)
 - c. ***Sangha Principle*** (Work in and with the community or *sangha*)
- 1.14 Techniques of public health interventions in the community:
 - a. External agent technique mode (Program to be initiated and run by public health practitioners as external service provider)
 - b. Multiple-agent technique (Program to be initiated and run by public health practitioners and community people jointly)
 - c. Internal-participatory-action mode (Program to be initiated and run by community groups themselves with the facilitator role of the public health practitioners)
 - d. Special skills of public health practitioners/workers required for working in the community using various techniques
- 1.15 Public health domains for interventions (work) in the community
 - a. Intervention theme: community health issues, health risk factors, diseases and determinants

- b. Public health intervention core actions: Promoting and protecting health, preventing and controlling health risk factors, injuries and diseases, encouragement for early detection, treatment and compliance to treatment of diseases and infirmity
 - c. Mode of interventions: educational, empowerment, policy-legislation, community organization, infrastructural, managerial)
- 1.16 Basic strategies of working in the rural and urban communities
- a. Entering into or stimulating the community
 - b. Organizing and mobilizing the community
 - c. Negotiating for participation (if desired)
 - d. Soliciting or encouraging community participation
 - e. Moving community actions for community health diagnosis, intervention planning, implementation and evaluation
 - f. Appraising the impact and outcomes of public health intervention on improvement of health status of public and overall development of the community

Unit 2: Strategies for entering the community and getting to know the community 4 hours

- 2.1 Clarity among the practitioners about the mission, goal and purposes of public health work in the community
- 2.2 Ensuring managerial back up with required resources
- 2.3 Building rapport with the community representative
- 2.4 Effectively communicating mission, goal and purposes of public health work to the community or community expressing the need for public health works

Unit 3: Starting community organization and mobilization 13 hours

- 3.1 Need for and advantages of community organization, mobilization, participation and action for community-based public health interventions
- 3.2 Definition and principles of community organization and mobilization
- 3.3 Process of organizing and mobilizing community for public health work

- 3.4 Identification of existing community-based and public health work related formal and informal community groups and organizations (consumers group, women group, sport group, social workers group, theme specific clubs, cooperative groups, entertainment group, business group, health professional etc. and communicating and sharing their roles and responsibilities regarding public health works
- 3.5 Linking the goal of public health work with the goal of the community-based organization
- 3.6 Formation of new work groups (if desired): and communicating and sharing their purpose, members, identification of roles and responsibilities
- 3.7 Understanding community group dynamics
 - a. Concept of group and group dynamics in the context of public health work in the community
 - b. Stages of group formation: individual oriented, emotional status and conflict, consolidation, cohesion
 - c. Various roles that groups play: positive, group-building, group maintenance, group task, negative or blocking
 - d. Consideration of barriers to group or community participation and ways to overcoming them
 - Barriers: lack of information, insecurity, injustice and inequality, lack of transparency, physical, social and psychological barriers, political bias, resource constraints, group problems (apathy, conflict, hip-pocket decision, hidden agenda) etc.
 - Ways to overcoming the barriers: transparency of public health mission, goal and outcomes, comprehensive membership, clarity of role and responsibilities, mutual trust building, negotiation, mutual benefit clarification, community spirit building etc.
 - e. Negotiation for participation and action (use of negotiation skills)

Unit 4: Soliciting community participation

6 hours

- 4.1 Definition, purpose, importance and principles of community participation and action in the context of public health works

- 4.2 Levels of community participation: cooperation, compliance, consultation, collaboration and local control and their utility according to the level of participation desired
- 4.3 Process of soliciting or encouraging community participation and action
- 4.4 Empowering the community: Definition, need and process of empowering community for effective participation in public health interventions
 - a. Process of empowerment
 - Observance of community's rights to be informed (on scientific basis of public health issues, intervention strategies, benefits, mode of participation)
 - Active involvement discussion in issues and strategies
 - Informed decision-making
 - Control over determinants of public health issues, intervention strategies, resources, health benefits
- 4.5 Community participation and action for public health interventions including delivery and utilization of public health services

Unit 5: Community participation in action **13 hours**

- 5.1 Meaning of and need for community participation in action
- 5.2 Cyclic ways of participation and action of the community in various phases of public health program interventions:
 - a. **Organizing phase:** Prepare, and organize community for participation and action and act together
 - b. **Community health diagnosis phase:** Community health needs identification and prioritization phase including community health diagnosis by soliciting participatory rapid appraisal (PRA/PLA) principles and techniques (diagnosis models)
 - c. **For community health diagnosis in detail refer to course "Community Health Diagnosis: Theory and Practice"**
 - d. **Planning phase:** Plan intervention program with community by soliciting participatory planning principles and appropriate planning models

- Importance of planned intervention
 - Planning models and processes
 - Components of a good intervention plan
 - Preparation of logical framework (implementation schedule)
 - Sharing of plan and soliciting recognition and support of concerned parties
- e. ***Acting together for actions phase:*** Intervention program implementation including monitoring according to monitoring principles by soliciting the participatory action
- Setting stage for implementation
 - Acquiring commitment from intervention partners
 - Ensuring management support: leadership, finance, human resource, logistic, public health service flow
 - Carrying out activities as scheduled in the plan
 - Conducting participatory monitoring
 - Recording progress and constraints ((Intervention information system)
- f. ***Evaluation phase:*** Intervention program evaluation by soliciting participatory evaluation principles and models
- Evaluating level of participation and action including measurement of participation
 - Evaluating impact and outcomes of public health intervention on core actions (P3CE)
- g. ***Community appraisal phase:*** Definition, criteria and process of community appraisal, sharing-the-benefit, dissemination of impact/outcome and scaling up the interventions
- 5.3 Government and INGO/NGO's strategies for incorporating community participation in public health interventions
- 5.4 Local government's roles and responsibilities in planning and implementing public health intervention with participation of community and community groups

5. Teaching-learning activities

	Method
1-5	Interactive lecture, Group discussion, Organizational project visits for case study of public health intervention, document review, case report, document show

6. Evaluation Scheme

Weightage

- | | |
|---|-----|
| 1. External (University examination) | 80% |
| 2. Internal | 20% |
| a. Written examination (two examinations) | 50% |
| b. Class attendance | 25% |
| c. Class presentation and home assignment | 25% |

6. Reading materials

1. Ross, Murray G. *Community Organization*, New York: Harper & Ro, Publishers (Recent Edition)
2. Oakley, Peter, and *Community Involvement in Health Development: An Examination of Critical Issues*, Geneva: WHO, 1989.
3. Introduction to community organization,
<http://www.bahaistudies.net/neurelitism/library/community-organization.pdf>
4. Suresh Pathare, *Community Organization: Concepts and Principles*:<http://www.ignou.ac.in/upload/bswe-03-block1-unit-1-small-size.pdf>
5. Community organization:
<http://www.fao.org/3/i0989e/i0989e04b.pdf>
6. Paul W. Speer and Brian D. Christens, *Community Organization*:<https://www.myctb.org/wst/CEJ/SiteAssets/Community%20Organizing.pdf>
7. Community participation,
https://ec.europa.eu/echo/files/evaluation/watsan2005/annex_files/WEDC/es/ES12CD.pdf

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of public Health

1. Preliminaries

Course Title	Public Health Infrastructure Engineering and Disaster Management	
Third Year	Fifth Semester	Course Code: BPH 305.3 PHIEDM
Credit Hours: 3Cr (48hrs)	Full Mark: 100	Pass Mark: 50

2. Course Description

Man-made and natural disasters are occurring frequently in the countries of the globe. The damages caused by disasters are unaccountable particularly in terms of breakdown of public health infrastructures and loss of human lives due to injuries and diseases. Public health practitioners have important roles to play in building of infrastructures from public health perspective and management of disaster effects particularly health and medical effects. This course has been designed to provide knowledge and skills related to engineering aspects of construction of public health and basic medical care infrastructures. In addition they will understand the dynamics of manmade and natural disasters and the ways they could manage the disaster from public health perspectives.

3. Course Objectives

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

1. Describe application of public health science knowledge in engineering aspects of public health infrastructure building.
2. Describe technicalities of water engineering, sanitary disposal system and healthy housing.
3. Explain the concepts of disaster and disaster management and public health services to be provided in all the stages of disaster management cycle.
4. Highlight disaster management system in Nepal.

4. Course Contents

Unit 1: Introduction to public health infrastructures and their engineering components **7 hours**

- 1.1 Meaning of public health service infrastructures
- 1.2 Overview of infrastructures related to:
 - a. Promotive health service (play ground, parks, fitness exercise hall, nutrition garden, etc.)
 - b. Preventive health including environmental health infrastructures (sanitary and safe latrine structures, water supply system including reservoir, safe water tank, waste disposal and recycling structures, ventilation including air circulation friendly structure, dampness control structures at homes, rodents free and preventive structures etc.)
 - c. Occupational health safety structures in factory and work places
 - d. Accidents, disaster, and hazards preventing structures
- 1.3 Meaning of engineering aspects of public health service infrastructures
- 1.4 Principles, scope, and application of public health infrastructural engineering in the Nepalese engineering context.
- 1.5 Need for and importance of consideration of public health perspective in various engineering system (housing, worksite building, road, irrigation, hydro-electric, etc.)
- 1.6 Overview of legal (laws) provisions related to engineering of public health concerns

Unit 2: Public health infrastructure engineering related to sanitary disposal of human excreta **5 hours**

- 2.1 Meaning, purpose and importance of engineering aspects of sanitary and safe latrine construction
- 2.2 Criteria for a safe and sanitary construction of latrines (ratio to number of users, land, distance from water sources, structure, materials to be used, etc.)
- 2.3 Engineering of construction of various types of latrines (traditional and modern) meeting the criteria including descriptions, construction of latrine for mass use

- 2.4 Biogas engineering, its importance, types, promotion for public health in rural sub-urban settings

Unit 3: Public health infrastructure engineering related to safe drinking water supply **6 hours**

- 3.1 Meaning, purpose and importance of engineering aspects of adequate and safe drinking water supply system
- 3.2 Criteria for construction of adequate and safe drinking water system (ratio to number of users, land, distance from waste disposal, structure, materials to be used, contamination control etc.)
- 3.3 Engineering of construction of various types of safe water supply system including health aspects of catchment, reservoir, filtration, supply lines (traditional and modern) meeting the criteria
- 3.4 Criteria for health and safety aspects of water filtration and distribution business establishments
- 4.5 Network design, distribution of water treatment and supply system, issue in management, equity in distribution in Mega cities of Nepal.

Unit 4: Public health infrastructure engineering related to healthy housing **4 hrs**

- 4.1 Meaning, purpose and importance of engineering aspects of residential and non-residential healthy houses
- 4.2 Criteria for construction of adequate and healthy residential and non-residential houses (ratio to number of occupants, area, land characteristics, distance from waste disposal structure, light, ventilation, dampness, safety measures, fire escape, earthquake effect resistant, materials to be used, adherence to government housing codes etc.)
- 4.3 Engineering of construction of residential and non-residential houses meeting the criteria
- 4.4 Network design, distribution of housing codes, issue in management, equity in house construction in Mega cities of Nepal.

Unit 5: Public health infrastructure engineering related to sanitary disposal of solid and liquid wastes **8 hours**

- 5.1 Meaning, importance and features of waste management infrastructure engineering
- 5.2 Principles of waste management infrastructure : recycling and safe disposal
- 5.3 Design and construction of household and community level waste collection and recycling infrastructure including community demonstration infrastructure
- 5.4 Land filling - public health aspects of site selection criteria, design, construction and operation
- 5.5 Biomedical waste collection and treatment –public health aspects of infrastructure for composting and anaerobic digestion, design and operation
- 5.6 Thermal waste collection and treatment infrastructure– public health aspects of combustion, paralysis, and gasification, design and operation.
- 5.7 Sewage water draining and treatment infrastructures: public health aspects of drain, drain pipes and treatment plant construction

Unit 6: Introduction to disaster and disaster management **6 hours**

- 6.1 Meaning of disaster and disaster management
- 6.2 Types of disasters:
 - a. Man made and natural
 - b. Earthquake, landslide, flood, fire, tsunami, storms, nebular accidents, war/conflicts
- 6.3 Meaning of disaster led damages to public health and medical care infrastructures
 - a. Damage to public health infrastructures and their direct and indirect effects on health and disease of people
 - Damage to food production infrastructures
 - Damage to safe drinking water supply infrastructure
 - Damages to infrastructures of sanitary disposal of solid and liquid waste
 - Damage to housing
 - Damage to nuclear waste disposal infrastructures

- Damage to roads
 - b Damage to medical care infrastructures: hospitals, health centers, health posts etc.
- 6.4 Effects of disasters: on health of the people and health related phenomena
- a. Scarcity of foods and nutritional deficiencies
 - b. Contamination of drinking and disease outbreak particularly gastro-intestinal diseases
 - c. Displacement, mental disorder including stress
 - e. Violence and related health problems
 - d. Injuries, disability, death
- 6.5 Common disasters in Nepal and its health and related effects among the concerned population

Unit 7: Introduction to disaster management and disaster management cycle **7 hrs**

- 7.1 Role and functions of public health practitioners in disaster management
- 7.2 Public health, medical care and related components of disaster management
- 7.3 Disaster management cycle: meaning and components
- a. Mitigation
 - Meaning of disaster mitigation and mitigation strategies
 - Hazard identification and vulnerability analysis
 - Mitigation efforts to prevent hazards from developing into disasters
 - Results of mitigation efforts
 - Overview of disaster mitigation system in Nepal
 - b. Response
 - Meaning and aims of disaster response
 - Modern and traditional response ways to disasters
 - Results of response efforts
 - Disaster response activities in Nepalese context
 - Overview of disaster response system in Nepal
 - c. Recovery
 - Meaning of disaster recovery and recovery plan
 - Critiques of disaster as an opportunity for development initiatives
 - Results of recovery efforts

- Overview of disaster management mechanism of Nepal including activities of different organization in Nepal
 - d. Preparedness
 - Meaning of disaster preparedness and planning
 - Elements of disaster preparedness planning
 - Disaster forecasting and preparedness
 - Overview of disaster risk reduction (DRR) elements, process including framework of disaster risk management
 - Results of preparedness efforts
 - Overview of disaster preparedness system in Nepal
- 7.4 Intersectoral coordination and cooperation for disaster management

Unit 8: Management of public health and medical care related specific activities during disasters **5 hours**

- 8.1 Emergency first aid care
- 8.2 Emergency medical and surgical treatment
- 8.3 Rapid sanitation and environmental health services
- 8.4 Food and nutrition services
- 8.5 Prevention and control of communicable diseases
- 8.6 Rapid situation appraisal and operation of information system
- 8.7 Mobilization and management of emergency public health commodities, supplies and equipment
- 8.8 Mobilization and management of emergency first aid care and basic medical care commodities, supplies and equipment
- 8.8 Health education of the public and of those directly affected by disasters

5. Teaching-learning activities

Unit	Method
1-8	Interactive lecture and group discussion, Illustrative lecture, interactive and participatory T/L methods support by audiovisual materials, Case study of past disasters, Mock sessions on selected disaster events

6. Evaluation Scheme	weightage
1. External (University examination)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading materials

1. Disaster management guideline, MoHP
2. Plan, Policy and guideline of Rural/Municipalities
3. Nepal health Infrastructure Development Standard, 2017
4. Building Development Code
5. Dahal, A.R. A Textbook of Health Management, Kathmandu: Vidyarthi Prakashan, 2012
6. Asian Development Bank 2008. Disaster Management handbook, <https://www.think-asia.org/bitstream/handle/11540/5035/disaster-management-handbook.pdf?sequence=1>
7. Disaster risk reduction, Mitigation and preparedness in development and emergency programming: https://www.ifrc.org/PageFiles/95743/B.a.05.%20Disaster%20risk%20reduction_%20Good%20Practice%20Review_HP.N.pdf
8. Nepal Health Facility Survey 2015 Final Report: <https://dhsprogram.com/pubs/pdf/SPA24/SPA24.pdf>

Purbanchal University
Faculty of Medical and Allied Health Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Fundamentals of Health Education	
Third Year	Fifth Semester	Course Code: BPH 305.4FHE
Credit Hours: 3Cr (48hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

The core actions of public health are promotive, preventive, protective, control and encouragement aspects of any health and related themes such as nutrition, environmental health, reproductive and family health, communicable and non-communicable diseases. Regarding the core action of health education and health promotion are the two frontline interventions which are carried out by most of the public institutions, organizations as well as NGOs. Therefore public health practitioners who work for the organizations have to develop appropriate knowledge, attitudes and skills pertaining to the interventions. This course is designed to provide students with the basic concept of health education and promotion through suitable teaching-learning processes on subject matters such as introductory health education, learning process, adoption process using health education methods and media, approaches to health education, strategies of health promotion and health promotion and education service providers.

3. Course Objectives

Upon the successful completion of the course the students should be able to:

1. State that health education is the frontline interventions of public health program to carry out its core actions (promotive, preventive, protective control and encouragement) on health and related themes
2. Describe human behavior including its types, change and adoption process

3. Justify the position of health education in changing health behavior
4. Define health education with definitions propounded by various experts or committees
5. Explain learning process and the elements involved in this process
6. Enumerate various health education methods and media and their features including its proper uses in relation to low resource setting
7. Demonstrate skills on using different health education medias.
8. Highlight the nature of health education service providers.
9. Appreciate the contribution of health education interventions in helping people to attain optimum level of health.
10. Highlight the health education methods and media in low resource setting.

4. Course Contents

Unit 1: Introduction to health education

7 hours

- 1.1 Review of health education as one of the interventions under the three domains of public health (a. thematic, b. core actions, and c. intervention domains)
- 1.2 Need for health education on thematic domain and in conducting the five core actions of public health (Promoting and Protecting health; Preventing health risk factors, injuries, illness/diseases, Controlling epidemics; and Encouraging early detection, treatment and compliance to treatment: P3CE)
- 1.3 Review of meaning and types of health behavior (covert and overt; cognitive, affective and psycho-motor)
 - a. Meaning and level of cognitive (knowledge) behavior
 - b. Meaning and level of affective (attitude) behavior
 - c. Meaning and level of psycho-motor (practice) behavior
- 1.4 Listing of some desirable and undesirable human behaviors affecting health and need for maintaining and promoting desirable health behavior and chaining undesirable behavior into desirable ones
- 1.5 Resistance to health behavior change and ways of overcoming them
- 1.6 Defining community health education as a process of maintaining and changing health behaviors

- 1.7 Specific definitions of health education: Definition by DB Nysewander, CE Turners, Mayhew Derriberry, RE Grout, CW Stewart, LW Green, SOPHE, WHO Scientific Group,
- 1.8 Aims, purpose, principles and scope of health education

Unit 2: Health education as learning process 9 hours

- 2.1 Definition of *learning* and overview of sub-processes involved in learning of health behaviors: From stimulus, sensation, perception, motivation, critical thinking (conscientization) to learning including retention and recall
- 2.2 Meaning of and criteria for selecting appropriate health and disease related *stimuli* to be used during health education and their consideration in selecting health education methods and media
- 2.3 Meaning of *sensation* of health and disease related *stimuli* and importance of correct sensation for effective health education and their consideration in selecting health education methods and media
- 2.4 Meaning of *perception* of *sensation* of health and disease related *stimuli* and importance of correct *perception* of sensation for effective health education and their consideration in selecting health education methods and media
- 2.5 Perceptual differences and their effects in learning and their consideration in selecting health education methods and media
- 2.6 Meaning of *motivation* and its pivotal place in learning process
- 2.7 Some theories on *motivation* and their application in learning process: Abraham Maslow's Hierarchy of Need Theory, Rosenstock's Health Belief Model, Kurt Lewin's Force Field Theory, Buchman's Protection Motivation Theory
- 2.8 Ways of motivating people for learning desirable health behaviors
- 2.9 Principles, ways and steps of *learning*
- 2.10 Developing critical thinking for conscious learning
- 2.11 Need for *communicating* adequate, appropriate, and relevant health ideas, facts, acts, and experience in learning process
 - a. Definition, elements and process of health communication in health education

- b. Some models of health communication: a) one way straight model (Aristotle, Shanon and Weaver), and b) two ways circular model (Leagan, Westley)
- c. Principles of interpersonal, group and mass health communication
- d. Communication barriers: types and ways to overcome the barriers
- e. Communication skill for health education practitioners and workers

Unit 3: Adoption process in health education **4 hours**

- 3.1 Sustainable adoption of desirable health behavior as the prime motto of health education
- 3.2 Overview of some behavior adoption (health behavior change) models: EM Rogers's Adoption or Diffusion Process Model and Adopters Category Model; Kurt Lewin's Unfreezing-Refreezing Model
- 3.3 Application of the various models in health education process, particularly in selection of health education contents (messages), methods, and media

Unit 4: Health education methods **10 hours**

- 4.1 Definition and importance of health education methods
- 4.2 Classification of health education methods according to size of health education target group or audience: individual, small group and large group or mass health education methods
- 4.3 Meaning, features, process, criteria for choosing and proper use of following individual methods:
 - a. Interview, b. Counseling
- 4.4 Meaning, features, process, criteria for choosing and proper use of the following group methods
 - a. Mini-lecture,
 - b. Brain-storming,
 - c. Group discussion,
 - d. Buzz group,
 - e. Role-play,
 - f. Demonstration,
 - g. Workshop,
 - h. Seminar,

- i. Mini-project,
 - j. Field trips,
- 4.5 Meaning, features, process, criteria for choosing and proper use of the following mass methods:
- a. Lecture-speech,
 - b. Public announcement through miking,
 - c. Radio broadcasting,
 - d. TV telecasting,
 - e. E-sharing,
 - f. Exhibition (fairs),
 - g. Social media
- 4.6 Conditions suitable for appropriate use of health education methods

Unit 5: Health education media and materials **9 hours**

- 5.1 Definition and importance of health education communication media and materials in the context of health education methods
- 5.2 Classification of health education media and materials: Audio aids, visual aids and audio-visual aids and their meanings
- 5.3 Edgar Dale’s model “Cone of Experience” in relation to effectiveness level of audio, visual, audio-visual and other experiences and consideration of model in preparing and selecting health education media and materials
- 5.4 Meaning, features, preparation procedures, appropriate use, advantages and limitation of the following health education media and materials
 - a. Audio aids: radio broadcasting (song, story, spot message); folk song, public announcement
 - b. Visual: Printed materials (poster, charts, flow chart, flip charts, flash cards, hand bill, pamphlets, booklets, stickers, film slides, hording, banner, model, puppet, real object etc
 - c. TV, movie, video, mobile, VCD, computer
- 5.5 Conditions suitable for appropriate use of health education media and materials
- 5.6 Preparation of sample health education materials and media and its using techniques. (**See practical course**)

Unit 6: Approaches to health education

5 hours

- 6.1 Meaning, features, and conditions suitable for use of the following health education approaches:
- Impersonal propagandist approach
 - Pedagogical approach
 - Andragogical approach (Special reference to Paulo Freire's Conscientisation and Ivan Illich's non-formal adult education approaches)
 - Peer education (child-to-child; adult-to-adult) approach
- 6.2 Overview of process of health education intervention for core public health actions on public health themes
(Details will be dealt in the course "*Applied Health Education and Health Promotion*")

Unit 7: Health education initiation programs and humanresources in Nepal

4 hrs

- 7.1 Highlights of health education intervention program in Nepal
- 7.2 Types of human resource (service providers) for health education and their roles and functions:
- Public health generalists as health education providers
 - Health education specialists/health educators
- 7.2 Career opportunities for health education specialists/educators as a sub-specialist of public health profession

5. Teaching-Learning Activities

Unit	Method/ Media
1-7	Interactive lecture, and participatory methods supported by audiovisual materials and equipment, group discussion, role play on health education methods, individual and group assignment followed by presentation, preparation of health education materials and presentation.

6. Evaluation Scheme

Weightage

- | | |
|---|-----|
| 1. External (University examination) | 80% |
| 2. Internal | 20% |
| a. Written examination (two examinations) | 50% |
| b. Class attendance | 25% |
| c. Class presentation and home assignment | 25% |

Readings

1. Breckon, Donald J., John R. Harvey and R. Brik Lancaster. *Community Health Education, Gaithersburg: Aspen Publishers, Inc. 1998.*
2. Dahal, Achyut Raj. *Textbook of Health Education*, Kathmandu: Makalu Publication, 2013.
3. Pradhan, Hari Bhakta. *A Textbook of Health Education*. Kathmandu: Educational Resources for Health.
5. Pradhananga, YP, Devi Bahadur Shrestha. *SamudayaSwasthyaShikshya ko Rooprekha*. Katmandú:
6. Sapkota, Shiva P. *A Textbook of Health Education and Health Promotion*
7. World Health Organization. *Education for Health (Recent Edition)*, Geneva: World Health Organization. (Nepali Language version published by Institute of Medicine, Kathmandu)

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health program

1. Preliminaries

Course Title	Health Promoting School Program	
Third Year	Fifth Semester	Course Code: BPH 305.5 HPSP
Credit Hours: 3Cr (48hrs)	Full Marks: 100	Pass Marks: 50

2. Course Descriptions

Health promoting school program help people to develop their understanding and attitude for promotion of health, prevention of disease and injury, protection of health, control of spread of health risk factors, infections, and diseases in school and early diagnosis and treatment compliance. It contributes to the maintenance and improvement of health school beneficiaries such as; teachers, staff, students, parent community and immediate community. It further support to develop school health policy, introduce school health services, maintain healthful school environment thereby preventing disease and injury, establish provision of health teaching and initiate school community joint activity for the overall development of public health of students and other school beneficiaries. This course will impart the knowledge, attitude and skills of students to plan, organize, implement and evaluate health promoting school program/s.

3. Course Objectives

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

1. Describe concept of health promoting school program including its components.
2. Identify and explain the policy and program provision for school health and health promoting school program in the national context
3. Explain the importance of health promoting school program
4. Explain the process of developing health promoting school in the community.
5. Plan, organize, implement and evaluate health promoting school program/s.

4. Course Contents

Unit 1: Concept of health promoting school 12 hours

- 1.1. Health promoting school as one of the settings for public health intervention focused on the core actions of public health:
- 1.2. Meaning, definition, evolution (including WHO Global Initiative on Health promoting School), rationale of health promoting school program Components of health promoting school and school beneficiaries
- 1.3. Overview of health promoting school program including its major components (policy, teaching, healthful environment, services, school-community joint actions)
- 1.4. Logical framework of how health promoting school programs enhance learning performance of the students, teaching performance of the teachers and overall academic standard of the school as a whole
- 1.5. Distinction between health promoting school and regular (non-health promoting) schools
- 1.6. Process of developing health promoting school including orientation of school beneficiaries on health promoting school
- 1.7. Place of health promoting school program in public health service
- 1.8. Roles and functions of public health practitioners in development, maintenance and evaluation of health promoting school program
- 1.9. Nepal government's program and strategies for health promoting school

Unit 2: Components of health promoting school progra 26 hours

- 2.1 School health policy
 - a. Meaning, definition, and rationale
 - b. Areas of school policies regarding promoting health, preventing health risk factors an injuries and diseases, protecting health and control of epidemics, early detection of diseases and infirmity
 - c. Policy development process
 - d. Overview of /health promoting school or school health program related policies and strategies incorporated in

national health and education policies (Review of Adolescent sexual and reproductive health and Adolescent friendly health service).

2.2 Health teaching

- a. Meaning, definition and rationale
- b. Types of health teaching
 - Formal teaching:
 - Health teaching based on prescribed formal curriculum and textbooks for academic certification
 - Develop lesson plan according to grade wise curricular provisions for health teaching
 - Distinction between conventional teaching methods and teaching under health promoting school concept
 - Lesson plan for better health teaching
 - Informal teaching:
 - Opportunities and their utilization for informal ways of teaching on health
 - Provision for healthful environment school environment
 - Provision of school sick room/school clinic
 - School communities for joint activities
 - Use of other components of health promoting school program for formal and informal health teaching

2.3 Healthful school environment

- a. Meaning, definition and rationale of healthful school environment
- b. Sub components of healthful school environment
 - Safe drinking water, separate toilet for boys & girls, sanitation, safe disposal of waste, pollution control, healthful classroom management, playground, Shower room facilities
 - Concept and arrangement of disable friendly school environment

2.4 School health services

- a. Meaning, definition and rationale of school health services
- b. Sub components of school health services
 - Provisions for and techniques of health screening of eye (detecting visual impairment, using Snellen Chart, and eye problems/infections), ear (detecting hearing impairment using tuning fork and whisper test and outer ear infections), Oral cavity (teeth, gum, oral mucosa and tongue health and hygiene), nose (smell test and nose problems) and skin (hygiene and skin infections)
 - Provisions for occasional /test or routing examination of stool and urine
 - Provision for basic health services: Sick room/school clinic, first aid kits and its use, immunization services, , deworming, care of sense organs, and referral of sick school population
 - Psychosocial counseling on general and adolescent sexual health
 - Intersectoral coordination for school health services
 - School health record of students, healthy school meal/home lunch box, canteen/and food stalls

2.5 School community joint activity

- a. Meaning, definition and rationale of school community joint activity
- b. Listing of government, non-government and private organizations having intervention in schools
- c. Areas for joint activities:
 - Formation of home school joint committee (parents teachers association)
 - Participation of parents/community members in operation of school health policy, health teaching particularly informal, healthful school environment and school health services

- Community outreach: joint celebration of health days, community cleaning campaign, organization of health awareness rallies/campaigns etc.

Unit 3: Management of health promoting school **10 hours**

- 3.1 Overview of managing health promoting school
- 3.2 Planning, organization, staffing, implementation (including human resources mobilization, supervision, monitoring) and evaluation of health promoting school program using checklist
- 3.3 Transfer of learning from school health program
- 3.4 Overview of status of school health or health promoting school program in Nepal
- 3.5 Development of a proposal for initiating health promoting school program covering topics covered in Unit 1, 2, and 3 of this course

5. Teaching-learning activities

Unit	Method
1-3	Interactive lecture, and participatory methods supported by audiovisual materials and equipment, group discussion, individual and group assignment followed by presentation, field trips to schools, proposal development

6. Evaluation Scheme

	<u>Weightage</u>
1. External (University examination)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Readings Materials

1. WHO Guidelines on Health promoting School
2. Anderson, C.L. School Health Practice
3. Fodor. Health Instruction: Theory and Practice
4. Hagg, Helen. School Health program
5. Pradhananga, Y. Vidyalaya Swasthya ra swasthyaKaryakartahartu (in Nepali). Kathmandu: HEDA.
6. Ministry of health and Population. National Health Policy 2076, Kathmandu: MOH
7. Ministry of Education. National strategy on Health and Nutrition, Bhaktapur.
8. MoHP, National School Health and Nutrition Strategies Nepal 2006
9. WHO, WHO information series on school health (number 1-12): www.who.org
10. **WHO, Global School Health Initiatives: Achieving Health and Education Outcomes:**www.who.org
11. WHO 1998. WHO's Global School Health initiative: www.who.org
12. WHO 2017. Health Promoting School-Experiences from the Western Pacific Region: www.who.org
13. WHO 1999. Improving health through school- national and international strategies: www.who.org
14. WHO Local Action Creating Health Promoting School: www.who.org

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course title	Fundamentals of Public Health Service Management	
Third Year	Fifth Semester	Course Code: BPH 305.6 FPHSM
Credit hours: 3Cr (48Hrs)	Full marks: 100	Pass marks: 50

2. Course Description

It is imperative for public health practitioners to take role of a manager and carry out management functions though at the mid-level. Along with management process of general health service, the practitioners are bond to understand and put into practice the management process particularly of public health services as they understood the new perspective of public health different from medical service. Such understanding and practice need to be materialize in the context of the country where the practitioners work. Therefore, this course is designed to help students develop basic concept of public health service, differently from medical care, management including its functions in the country context. Inn this part of the course, the contents include concept and modern functions of public health service management including planning and organizing functions and their application in Nepalese health service management system.

3. Course Objectives

Upon the successful completion of the course the students should be able to:

1. Explain the need for developing knowledge and skills of public health service management by the mid-level public health practitioners
2. Define public health service management in terms of the three domains of public health
3. Differentiate between public health service and medical care management

4. Highlight the five functions of public health service management
5. Explain planning as one of the five function of public health service management including policy, strategy and plans as basic ground for managerial functions
7. Explain the concept of organizing as one of the management functions, organization and organization structure
8. Describe appropriate pattens of staffing according to organizational structure
9. Describe nature of directing as one of the managerial functions
10. Describe nature of controlling as one of the management functions

4. Course Contents

Unit 1: Introduction to public health service management 8 hours.

- 1.4 Highlights of management roles of public health practitioners
- 1.5 Definition, purpose importance and principles of public health service management in the context of the three domains of public health (*thematic, core actions, and intervention domains*)
- 1.6 Difference between conventional POSDCoRB approach and modern management approach to public health service management
- 1.7 Distinction between public health service management, medical care management and general health service management
 - a. Components of public health service management at community level: Community nutrition services, community health education, environmental health services, lifestyle change services, immunization, community organization and mobilization, health risk factors, injuries and disease prevention services etc.
 - b. Components of medical care management at medical facility level: management of OPD, inpatient service, emergency department, ICU, operating room, clinical laboratory and pharmacy, radio-imaging services, nursing service, medical recording etc.,
- 1.8 Distinct features of public health service and medical care in the context of the following selected contemporary health service initiatives:

- a. Primary health care
 - b. Universal health care (service)
 - c. Essential health care (service)
 - d. Health related sections of current internationally declared Development Goals
- 1.9 Public health service and its management at various sectors: government, non-government, and private sectors
- 1.10 Highlights of modern management functions
- a. Formulating policies
 - b. Planning of health services
 - c. Organizing and staffing
 - d. Directing/leading
 - e. Controlling

Unit 2: Policy formulation

6 hours.

- 2.1 Constitution as the source of national public health policy;
- 2.2 Definition of policy, public health policy and medical care policy
- 2.3 Features of a public health policy document, including essential contents of a policy (Background, issues, challenges and opportunities, rationale and directive principles, policy statements, strategies according to the policy, hints for program development)
- 2.4 Public health management system as an aid to materialize public health policies, strategies and planned programs through its functions

Unit 3: Planning

7 hours.

- 3.1 Overview of planning opportunities and responsibilities of public health practitioners: responsibility towards upper level planning and opportunity for working level (local level) planning
- 3.2 Definition of planning and public health *intervention* program planning with reference to intervention for public health *core actions* on public health *themes*
- 3.3 Characteristics and prominent elements of a good public health intervention plan
- 3.4 Types of public health intervention plans as per duration or period (*short term, long term*) and level of management (*national, sub-national, local level*), nature of participation of

public health beneficiaries and stakeholders (*participatory and authority-oriented*)

- 3.5 Process of planning including planning cycle
- 3.6 Preparation of a miniature periodic plan on public health intervention to carryout public health core actions on selected public health theme

Unit 4: Organizing and staffing **8 hours.**

- 4.1 Overview of opportunities and responsibilities of public health practitioners regarding organization or public health service structures: responsibility towards upper level organization and opportunity for organizing at working level (local level)
- 4.2 Organizing and organization of public health services
 - a. Definition and steps of organizing
 - b. Definition, characteristics, importance and principles of organization, and organization as a system of public health service
 - c. Definition and characteristics of various forms of formal organization structure: line, staff, and functional
- 4.3 Organizational structure of public health services with reference to intervention for public health **core actions** on public health **themes**
 - a. Definition and features of:
 - Public health service centers and
 - Medical care centers
 - b. Definition, elements and theories of organization structure
 - c. Distinction between public health service organization structure and medical care organization structure
- 4.4 Organogram of public health service structure
 - a. Definition, features and types of organogram
 - b. Current organogram from center to peripheral levels
 - Ministry/ department of public health services (separately from medical care department) at national level
 - Department/Bureau of Public Health service (separately from medical care department/bureau at sub-national level

- Division/section (separately from medical care division/section) at local level government
- Division/section/unit for health education, environmental health, public health epidemiology, public health research, public health infrastructure development and other public health theme/issue related division/section/unit)
- Construction of a sample organogram depicting public health services structures

Unit 5: Staffing as per organizational structure **7 hours.**

5.1 Definition of staffing and public health specific staff categories (different from medical and allied medical staff)

5.2 Principles of public health staffing

5.3 Staffing patterns

- a. As per service category: public health staff, medical staff, nursing staff, management support staff)
- b. As per level of public health and medical care service (national, sub-national and local level staff)
- c. As per organization structures (Ministry, department, bureau, divisions, section, unit staff) ;
- d. As per public health and medical care functions
 - Public health functions: public health educator, environmental health officers, public health epidemiologist, public health officer, etc.
 - Medical and allied medical care functions: medical officers, clinical nurses, clinical lab experts, clinical pharmacists etc.

Unit 6: Directing **6 hours**

6.1 Definition of directing as public health service management function

6.2 Brief overview of components of directing:

- a. Delegation of authority: meaning, important, process, results
- b. leadership: meaning, importance, styles, results
- c. Decision-making: meaning, need, importance, process, results

- d. Managerial communication: meaning, importance, modes, skills, results
- e. Motivating staff: meaning, importance, motivational factors, types of incentives, results
- f. Coordinating: meaning, importance, types (internal-external; vertical-horizontal), mobilization of coordinating partners, results
- g. Conflict management: meaning, sources, types handling process, negotiation, results

Unit 7 Controlling

6 hours

7.1 Definition of controlling as public health service management function

7.2 Brief overview of measures of managerial control:

- a. Financial control measures: approving service budget, resource allocation, accounting, auditing results
- b. Human resource control measures: deployment, performance appraisal, reward/punishment
- c. Operational control measures: information management system, supervision, monitoring, evaluation

5. Teaching-Learning Activities

Unit	Method
1-7	Short lecture, interactive lecture and participatory methods, use of audiovisual materials and equipment, group discussion, individual and group assignment followed by presentation

6. Evaluation Scheme

weightage

- 1. External (University examination) 80%
- 2. Internal 20%
 - a. Written examination (two examinations) 50%
 - b. Class attendance 25%
 - c. Class presentation and home assignment 25%

Reading materials

1. Dahal, A. R. Textbook of Health Management. Kathmandu: Vidyarthi PustakBhandar, 2012.
2. Shakya, K. L. Health Service Management in Nepal
3. Vati, Nursing Administration and Management
4. Hanlon, Homian “Public Health Administration”.
5. Tripathy PC and Reddy PN “Principles of Management” Provincial, Municipal and Local Level health plans and organizational structures.
6. Honion ,Homian Public Health Administration.
7. Tripathy PC and Reddy PN “ Principles of Management”
8. Young DW “Financial Control in Health Care”. A Managerial perspective. An Aspen Publication. Aspen publisher. Inc. Rockville, Maryland. USA. 1984.
9. Anthony R. Kovner & Duacan Neuhauser, Health Service Management, Reading Cases and Commentary, first Indian edition 2007, Pentagon Press, New Delhi,
10. Kieran Walshe and Judith Smith, Health Care Management, Tata McGraw-Hill Private Limited, edition 2010, New Delhi, India

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

**Public Health Statistics and Computer Application –I-Lab
Based Practice**

1. Preliminaries

Course Title	Public Health Statistics and Computer Application -I -Lab Based Practice	
Third Year	Fifth Semester	Course code: BPH 305.1 PHSCA-I-LBP
Credit Hours: 1Cr (32Hrs)	Full Marks: 50	Pass Marks: 30

2. Course description

The course is a designed to develop practical skills of the students for public health statistics and basic functions of computer. Students stay in the computer lab and do practical to acquire the basic knowledge and skills of computer functions. Students identify the different accessories related to computer application which will be applied in different activities during academic period.

3. Objectives

Upon the successful completion of the course, students will able to operate all the basic function and procedures about computer, different applications and application for their academic purpose.

4. Lab base practice procedure

Divide in different group of students (based on capacity of computer lab) and develop knowledge and skill on:-

- Introduction to computers
 - Introduction to Computers (definition, characteristics & uses),
 - Introduction to Microsoft (system, application & utility);
 - Introduction to Data Processing: Elements, Activities.
 - Understanding about the information related to public health
- Windows

- Concept of Operating System, Introduction to Windows, features
- Windows explorer; Control panel, Setting wallpaper, screen saver, background.
- Creating a folder, Compressing/ Zipping files (WinZip), Virus & Antivirus
- Web resource and security
 - Web Resources & Security
 - Introduction, Using Search engines
 - Basic Security Concepts: threats to Users
 - Virus & Worms, Cookies, Spam, Firewall
 - Internet & browse: introduction, scope, uses, importance and applications, different system of internet browsing, Major site of health Online research for PH
- Word Processors
 - Introduction to word processing, features of word processors, working with formatted documents, Shortcut keys. Finding & replacing text,
 - Formatting documents, Selecting text, Formatting characters, changing cases, Paragraph formatting, Indents, Using format painter, Page formatting, Header & footer, Bullets & numbering, Tabs, referencing, end note, table of content, page break.
 - Word processors: Creating tables, Proofing text (Spell check, Auto correct), Inserting pictures, Mail merging, Printing.
- Spread sheets
 - Introduction, spread sheet, workbooks, saving a file, opening an existing worksheet, Rows and columns, cell entries (numbers, labels, formulas), spell check, find and replace, Adding and deleting rows and columns, Filling series, fill with drag, data sort, Formatting worksheet,
 - Spread sheets: Functions (SUM, AVERAGE, COUNT, MAX, MIN, IF), Data Filtering.
 - Introduction to charts, types of charts, Renaming sheet, Printing worksheet.
- Presentation

- Use of presentation software, Presentation tips, components of slide, choosing an auto layout, using outlines, editing text, formatting text, Creating presentation using blank presentation, Adding slides, changing color scheme, changing background and shading, adding header and footer, adding clip arts, Various presentation views, Working in slide sorter view, adding transition and animations to slide show, Printing slides. Creating and using master-slide.

5. Evaluation scheme

weightage (50 marks)

- | | |
|--|----------|
| a. Attendance in practical class and performance | 20 marks |
| b. Final Evaluation | 30 marks |

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

**Public Health Infrastructure Engineering and Disaster
Management - Field Based Practice**

1. Preliminaries

Course Title	Public Health Infrastructure Engineering and Disaster Management - Field Based Practice	
Third Year	Fifth Semester	Course Code: BPH 305.3 PHIEDM-FBP
Credit Hours: 1Cr (32hrs)	Full Mark: 100	Pass Mark: 50

2. Course Description

In the theory course, the students had learned about disasters (man-made and natural), their consequences and public health management particularly in terms of breakdown of public health infrastructures and loss of human lives due to injuries and diseases. The students as future public health practitioners have to practice the theoretical knowledge of public health infrastructure engineering and management of disaster effects particularly in health and medical effects. This course has been designed to assess conceptual understanding of disaster (man-made and natural), its effects on health and well being of individual, family and community through a piece of writing (cognitive skill development). The student/group of students will review the literatures, visit a disaster affected community or individual, make an observation visit to an agency/ institute working on disaster management and will prepare a piece of writing as appropriate.

3. Course Objectives

Upon the completion of this course the student will:

- Prepare a comprehensive review article based on disaster (man-made and natural)

- Prepare a case study report of a disaster affected community or an individual or a family. Include a detail history of disaster effects on individual level, family level and at community level.
- Prepare an observation report on an agency/ institute working on disaster management

4. Field based practice procedures

- Students work in a team of 4-5 people.
- Each team of students do literature review of disaster (man-made and natural) around the world, its causes, affects and management performed. Students search literature, review the cause of disaster, health problems and mitigation of disaster. Students critical analyze the recently affected disaster cases.
- Students also do observation visit to an agency/institute working on disaster management, engineering design, Construction Company, ministry of physical planning and infrastructure development, Red Cross society, earthquake disaster mitigation organization etc. Students collect the information that what and how the organizations are working for disaster proof structure development, health hazards less building construction, healthful structure of health institutions / hospital. Students also collect information that how these organizations reduce the risk of disaster while constructing the structures/building etc

5. Maintain process of practical work

- Individual team of student write a case study report of visited organization and submit to department and make a college presentation
- All reports should be signed by respective teacher
- All student must bring report in the final practical examination
- Final examination is based on practical work

6. Evaluation scheme

weight age (50 marks)

- | | |
|--|----------|
| a. Attendance, disciplines and performance | 10 marks |
| b. Presentation at college and report submission | 10 marks |
| c. Final Evaluation (viva) | 30 marks |

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

Fundamentals of Health Education – Classroom Based Practice

1. Preliminaries

Course Title	Fundamentals of Health Education – Classroom Based Practice	
Third Year	Fifth Semester	Course code: BPH 305.4 FHE - CBP
Credit hours: 1Cr (32 hrs)	Full marks: 50	Pass marks: 30

2. Course description:

This PSD is a course designed to equip students with the practical knowledge and skills on the **preparation and use of health education methods and media**. Students are required to identify the themes of public health (such as nutrition, environment, safe motherhood, family planning etc.) for development of health education materials. After deciding the theme, students are encouraged to develop different information Education and Communication (IEC) materials (example; poster, pamphlet, flip chart, flash card etc) based on their identified themes under the direct supervision and guidance of subject teacher. This practical course will help students to understand the importance of IEC materials in providing knowledge, changing attitudes and adopting healthy behaviors. In addition, this course will also encourage students to portray their creativity in development of various media and also enable them to recognize appropriate methods and media based on the subject matters.

3. Objectives of PSD

Upon the successful completion of the course, students will be able to recognize various IEC materials depending on the nature of subject enhance skills for the development of different health education media and exhibit those materials in the college premises.

4. Procedure

a) Development of IEC materials

- Make a group division of students (5-6 students in a group).
- Identify the theme or issues on public health by each group after discussing with subject teacher for developing health education media.
- Discuss what type of media would be appropriate to provide health education for the selected theme (for example; poster, chart, model, leaflets etc.). Also discuss in creating new slogans or jingles in the same theme that might be more influencing and attractive. Remember that the core messages should be according to our national standard.
- Based on those ideas, develop different types of handmade IEC materials by each group using different approach.

b) Exhibition of IEC materials

- Decide the day of exhibition in college premises. Students need to inform and invite all the concerned people (teachers including Principal and HoDs, juniors, seniors of all faculties, administrative staffs and others). Prepare and arrange the stall area and display the materials effectively. Depict all the developed materials on exhibition day by each group.
- Provide register to record the participants attending exhibition.

5. Maintain process of log book

- Students need to maintain log book individually by writing the every activity done in the log book. Students should mention the date, topic of discussion, objective and activity carried out of each practical session.
- All activities documented should be signed by concerned subject teacher.
- Prepare an exhibition report by each group.
- Completely filled Log book and report should be brought during final practical examination.

6. Evaluation Scheme

weightage (50 marks)

- | | |
|--|------------|
| a) Attendance, disciplines and performance | -10 marks |
| b) Exhibition evaluation | - 5 marks |
| c) Log book and report | - 5 marks |
| d) Final Practical Examination (viva) | - 30 marks |

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

Health Promoting School Program – Field Based Practice

1. Preliminaries

Course Title	Health Promoting School Program – Field Based Practice	
Third Year	Fifth Semester	Course Code: BPH 305.5 HPSP-FBP
Credit Hours: 1Cr.(32hrs)	Full Marks: 50	Pass Marks: 30

2. Course Descriptions

The field based practice course deals with basic skills of health promoting school program planning, organizing, implementing and evaluating as appropriately applied to the particular school. The students in group (6-8 in each)/ individual will perform 1) school assessment, 2) health teaching, 3) health promoting school program which promote oral eye health including vision, ear health including hearing, and personal hygiene. The health promoting school program also focus the school environment safety, food hygiene, school sanitation, community- school joint program etc. Each group of students will assess the need for above mention programs followed by the planning, conduction and evaluation of the school health program. The students will maintain a daily logbook by individual group. Upon completion of this course the students are mandatory to prepare reports of all four activities and submit to the course facilitator.

3. Objectives

Upon the successful completion of the course, students are expected to develop the hands-on skill of school health assessment, planning, conduction and evaluating health promoting school program.

4. Process of conducting health promoting school program

a) School selection, assessment and planning

- School visit: With a formal request letter from college.
- Rapport building: Conduct orientation session on health promoting school and health promotion of school beneficiaries. Obtain a formal letter of permission from school principal.
- Discuss and develop a plan of activities with school teachers (Principal).
- Component wise assessment of school through checklist (developed checklist by students and teachers). Discuss and decide the health promoting activities with school teachers (Principal).
- Prepare a report on school assessment.
- Develop school promoting program plan including schedules (goal, objectives, rational, strategies, activities, actions plan, resources, evaluation framework, etc)

b) Conduct health promoting school program (health exhibition, role play, drama, sanitation, food hygiene, school health teaching etc.

- Prepare for decided health promoting school program
- Inform and share school/ stakeholders regarding the program
- Inform students/ parents
- Visit and conduct health promoting school program
- Evaluate the program effectiveness by using evaluation tools
- Receive feedback of school (teachers, students) and community

5. Maintain process field based practice

- Each group of students needs to maintain log book and prepare a report incorporating all the process of field based practical
- All activities documented should be signed by concerned subject teacher
- Log book and report should be brought during final practical examination.

6. Evaluation Scheme

weightage (50 marks)

- | | |
|--|----------|
| a. Attendance, discipline, performance | 10 marks |
| b. Developing and conducting programs | 5 marks |
| c. Log book/report submission | 5 mark |
| d. Final evaluation (viva) | 30 marks |

Third Year Sixth Semester

Purbanchal University
Faculty of Medical and Allied Health Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Applied Health Education and Promotion	
Third Year	Sixth Semester	Course Code: BPH 306.1 AHEP
Credit Hours: 3Cr (48hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

Public health practitioners, assuming the role of health educators/specialists are expected to plan, implement and evaluate health education and health promotion program as parts of public health interventions. After all public health service intends to bring desirable change in health behaviors vis-à-vis promoting health of the people to optimum level through educational and empowerment processes .Therefore, this course is designed to provide the prospective students to acquire necessary knowledge and skills to plan, implement and evaluate health education and health promotion interventions. Course contents include concept of health education and health promotion interventions, planning, implementation an evaluation techniques along with a brief overview of health education and health promotion intervention situation in Nepal.

3. Course Objectives

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

1. Explain the need for health education and health promotion intervention to help people to attain optimal level of health by establishing desirable health behaviors.
2. Describe the importance of carrying out planned health education and health promotion interventions as public health practitioners.
3. Explain the nature of health education intervention process, implementation and evaluation planning.

4. Describe steps of implementation and evaluation of planned health education intervention.
5. Identify criteria for judging success of health education and health promotion interventions.
6. Appreciate the ways that implementation of planned health education and health promotion intervention contribute to establish desirable health behaviors among the people to promote their health.
7. Highlight the status of health education and health promotion intervention programs in Nepal.

4. Course Contents

Unit 1: Introduction to applied health education 4 hours.

- 1.1 Meaning and importance of applied health education: Application of health education theories and principles in planning, implementation and evaluation of health education intervention programs
- 1.2 Understanding health education as one of the interventions of public health to carry out core actions of public health, namely promoting and protecting health, preventing health risk factors, injuries and diseases, controlling epidemics and encouraging for early detection, treatment and compliance (P3CE) on public health themes such as nutrition, environmental health, diseases, reproductive health etc.
- 1.3 Overview of setting-wise approach to health education (health education at home, school, workplace, in the community etc.)
- 1.4 Components of applied health education: a) health education intervention planning, b) implementation, c) evaluation, and d) dissemination of best practices

Unit 2: Health education intervention plan 6 hours

- 2.1 Definitions and reasons for health education intervention plan
- 2.2 Bringing about desirable changes in health behaviors in planned manner as the prime purpose of health education intervention plan
- 2.3 Characteristics and importance of a good health education intervention plan

- 2.4 Definitions and importance of the three major phases of health education intervention plan and their respective components
 - a. Process plan
 - b. Implementation plan
 - c. Evaluation plan
- 2.5 Features, purposes, phases and steps of the following popular health education intervention planning models/frameworks:
 - a. PRECEDE-PROCEDE Framework by Lawrence Green and Kreuter
 - b. WHO framework
- 2.1 Synthesis of the various phases and steps of health education intervention planning based on the different planning models

Unit 3: Health education intervention planning under the three phases of plan 9 hrs.

3.1 Process planning

- a. Overview of steps involved in the process plan
- b. Identification of health education needs (using relevant parts of PRECEDE Framework):
 - Diagnosis of status and levels of health knowledge, attitude, and practice (HKAP) regarding health education theme (as per thematic domain of public health)
 - Diagnosis of cultural, sociological and psychological factors affecting the KAP on the theme
 - Identifying promotive, preventive, protective, control and encouragement (P3CE) service needs to be addressed by health education intervention and as per the diagnosis of KAP on the theme
 - Identifying current local level health education programs or initiatives
 - Identifying health communication patterns among people including opportunities to media exposure
 - Summarizing health education needs
- c. Prioritization of educational needs

- d. Identification of target group or audience:
 - Primary, secondary and peripheral target groups
 - Target group as per stages of adoption process (Rogers's model) and adaptors category (EM Rogers's Diffusion of Innovation model)
- e. Setting goal and objectives of health education intervention depicting desired health behavior changes leading to the attainment of optimum level of health
- f. Preparing education message on the theme considering results of educational, cultural, social and psychological diagnosis

3.2 Implementation planning

- a. Overview of steps involved in implementation plan
- b. Preparation of action plan consisting of various components of a logical (log) frame including indicators and mile-stones
- c. Deciding appropriate methods of health education to be used
- d. Health education communication media plan including preparation or collection of appropriate health education materials and media (considering Edgar Dale's Cone of Experience model of audio-visual aids)
- e. Program implementation supervision and monitoring plan
- f. Resource mobilization and allocation plan

3.3 Evaluation planning

- a. Overview of steps involved in evaluation of health education interventions
- b. Clarifying concept, reasons, purposes of evaluation of health education intervention
- c. Identifying phases of evaluation (use of PROCEED Framework)
 - Health education process evaluation: Plan to evaluate process of intervention plan and implementation of health education activities
 - Health education impact evaluation: Plan to evaluate performance of health education providers and occurrence of desirable changes in health behaviors as a result of education activities

- Health education outcome evaluation: Plan to evaluate status of maintenance and promotion of health of the people on the way to attainment of optimal level of health and human productivity
- d. Timing for evaluation: midterm and end-line evaluation
- e. Scheduling for health education process, impact and outcome evaluation including scheduling for media impact evaluation

Unit 4: Implementing health education intervention plans 8 hours.

- 4.1 Definitions of implementation of health education intervention plan including implementation of process plan, implementation plan and evaluation plan
- 4.2 Using the plan document as a road map for implementation
- 4.3 Carrying out prerequisite strategies for a successful implementation of intervention plan
- 4.4 Bringing health education plan into action with beneficiaries' participation following the principles of community organization, participation and action
- 4.5 Conducting health education sessions using health education methods, materials and media by following appropriate procedures
- 4.6 Carrying out supervision of implementation of health education interventions in participatory or non-participatory way:
 - a. Supervising organization and educators' individual level health education performances by preparing and using appropriate supervision criteria, techniques, tools and systematic procedures
 - b. Preparing and sharing results of supervision for further actions
- 4.7 Carrying out monitoring of implementation of health education interventions in participatory or non-participatory way:
 - a. Monitoring organization and educators' individual level progress as per mile-stone stated in action plan by preparing and using appropriate monitoring criteria, techniques, tools and systematic procedures

- b. Preparing and sharing results of monitoring for further actions to accelerate progress in implementation
- 4.8 Recording implementation activities

Unit 5: Evaluating health education interventions **7 hours.**

- 5.1 Clarifying process of health education intervention evaluation
- 5.2 Forming independent or organization's evaluation team consisting of public health or health education related officers, expert or consultants
- 5.3 Reviewing health education intervention evaluation plan document
- 5.4 Conforming types of evaluation: Formative or mid-term, Summative or end-line evaluation
- 5.5 Setting standard or criteria and developing tools for examining:
 - a. Health education providers' performances
 - b. Level of changes in health behavior (knowledge, attitude, and practice) through learning among the target audience
 - Developing tools for examining level of knowledge gained
 - Developing attitude change measurement scales (Osgood, Likert, Thurston, Guttman scales)
 - Development of tools to measure level of practice adopted
- 5.6 Conducting evaluation of effect or impact of the intervention in the context of level of desirable changes in health KAP and attainment of level of health as the result of educational intervention
- 5.7 Using appropriate design, methods and tools of evaluation
- 5.8 Information or data generation, processing, analysis
- 5.9 Drawing evaluative conclusion and deciding the worth of health education intervention program/project
- 5.10 Providing recommendations and their uses for future health education interventions

Unit 6: Introduction to health promotion

7 hours

- 6.1 Health promotion as one of the public health interventions supporting health behavior change through health education process
- 6.2 Definition of health promotion as enabling process propounded by the Ottawa Charter
- 6.3 Overview of enabling (empowerment) process
- 6.4 Distinction between health promotion and health education and their inter dependence
- 6.5 Distinction between health promotion as enabling process and commonly used term health promotion to denote measures of promotivr health
- 6.6 Need of health promotion intervention to enable people to have control over the determinants of health and for participation in public health core actions: promoting and protecting health, preventing health risk factors and diseases, controlling epidemics and encouraging early detection, treatment and compliance to treatment (P3CE)
- 6.7 Brief highlights of The WHO Global Conferences on Health Promotion to expand the concept of the strategies and strategic actions
- 6.8 Types of human resource (service providers) for health promotion and their roles, functions ans career opportunities
 - a. Public health generalists as health promotion service providers
 - b. Health promotion specialists

Unit 7: Application of strategies and strategic actions of health promotion for enabling people as per the Ottawa Charter

4 hours

- 7.1 Meaning and purpose of applied health promotion
- 7.2 Need and process of planning for enabling people to increase control over determinants of the health theme (nutrition, environmental health, reproductive health, diseases etc.) on which desirable health behavior need to be established
 - a. Identifying the status and level of determinants of health behaviors
 - b. Assessing status and level of target audience's control over the determinants

- c. Identifying factors affecting increase in control over the determinants
- 7.3 Developing advocacy, mediation, enabling skills among the target audience to enable themselves to manipulate the factors affecting control over the determinants
- 7.4 Plan and implement the five strategic actions recommended by Ottawa Charter to enable target audience
 - a. Formulating healthy policies supporting enabling process
 - b. Creating other supportive environment to enhance enabling process
 - c. Developing personal skills of the target audience to become able to have control over the determinants
 - d. Soliciting community's actions to enable the target audience
 - e. Reorienting (bringing necessary changes in) public health service mechanisms to help target audience become able to have control over determinants of the health theme and their behaviors
- 7.3 Evaluate the health promotion intervention's effect or impact regarding empowerment for control over determinants of health and health behaviors

Unit 8: Overview of health education and promotion intervention in Nepal **3 hrs**

- 8.1 Federal level (Health education and health promotion policy, strategies, intervention plan and programs)
- 8.2 Provincial level (Intervention plan and programs)
- 8.3 Local level: Urban Municipalities and Rural Municipalities (Intervention plans and programs or activities)
- 8.4 Intersector coordination mechanisms for health education and health promotion interventions; role of national level governmental health education and health promotion organization (Example; NHEICC)

5. Teaching-Learning Activities

Unit	Method/ media
1-8	Interactive lecture, and participatory methods supported by audiovisual materials and equipment, group discussion, role play on health education methods, individual and group assignment followed by presentation, preparation of health education materials and presentation, health teaching practices

6. Evaluation scheme

weightage

1. External (University examination)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading materials

1. World Health Organization. Education for Health (Recent Edition), Geneva: World Health Organization. (Nepali Language version published by Institute of Medicine, Kathmandu)
2. Dahal, Achyut Raj. Textbook of Health Education, Kathmandu: Makalu Publication, 2013.
3. Pradhan, Hari Bhakta. A Textbook of Health Education. Kathmandu: Educational Resources for Health.
5. Pradhananga, YP, Devi Bahadur Shrestha. *SamudayaSwasthyaShikshya ko Rooprekha*. Katmandú:
6. Breckon, Donald J., John R. Harvey and R, Brik Lancaster. Community Health Education, Gaithersburg: Aspen Publishers, Inc. 1998.
7. Green, Lawrence. Marshall W. Kreuter, Sigrid G. Deeds, and Kay B. Partridge. Health Education Planning: A Diagnostic Approach, California: Mayfield Publishing Company

Purbanchal University
Faculty of Medical and Allied Health Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Public Health and Medical Services in Nepal	
Third Year	Sixth Semester	Course Code: BPH 306.2 PHMSN
Credit Hours: 3Cr (48hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

It is imperative for public health practitioners to take role of a manager and carry out management functions though at the mid-level. Along with management process of general health service, the practitioners are bond to understand and put into practice the management process particularly of public health services as they understood the new perspective of public health different from medical service. Such understanding and practice need to be materialize in the context of the country's health service management system where the practitioners work. Therefore, this course is designed to help students develop basic concept of health service (both public health and medical care including support services) management system in Nepal. The course contents include concept of three categories of health service management, historical development of health and medical services, organizational structures from federal to local level government, consideration of public health programs at each level. In addition concept of decentralization in health service management in Nepal is included.

3. Course Objectives

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

1. Describe concept of health service management in Nepalese context.
2. Trace historical development of public health service and medical care service in Nepal.
3. Explain mission, goal, and target as fundamental basis of health, public health and medical care services management in Nepal.
4. Describe the organizational structure, roles, responsibilities, functions, staffing patterns of the various levels of health service

- management: from federal level to rural municipality (gaonpalika level health service management).
5. Define decentralization in the context various types of decentralization of health service management in Nepal.

4. Course Contents

Unit 1: Introduction to public health service management 8 hours

- 1.11 Review of concept of health service management in the context of Nepal:
 - a. Public health services (promotive, preventive, protective and epidemics control, encouragement for early detection, treatment and compliance to complete treatment)
 - b. Medical care services (Diagnosis and medical, surgical and radio treatment)
 - c. Public health and medical care integrated support services
- 1.12 Brief overview of historical development of health services in Nepal
 - a. History of public health service
 - Development of promotive health services
 - Development of preventive health services
 - Development of protective (immunization) health services
 - Development of epidemics control service
 - b. History of medical care
 - Development of traditional medical care (treatment) system: Ayurveda, Homeopathy, Unani, naturopathy medicine
 - Development of Allopathic medicine (treatment) as alternate to traditional medicine in Nepalese medical traditions
 - c. History of organized public health service and medical care management systems
- 1.3 Mission, goal, and target as fundamental basis of health, public health and medical care services in Nepal
- 1.4 Constitution of Nepal, National Health Policy, Long Term and Periodic Plans, Programs and international health guidelines as the guidelines for health, public health and medical care management in Nepal

Unit 2: Overview of Federal level health service management

10 hours

- 2.1 Organizational structure, roles, responsibilities, functions, staffing patterns of the following federal level health service management
 - a. Federal Health Ministry and its divisions
 - b. National Centers
 - c. National Health and medicine related Professional Councils
 - d. Department of Health Services and its Divisions and Sections
- 2.2 Overview of federally handled public health and medical related services and education programs
- 2.3 Appraisal of the ways public health services are addressed in the federal level health service management system

Unit 3: Overview of Provincial level health service management

8 hours

- 3.1 Overview of provincial health plan and programs (including public health, medical care)
- 3.2 Organizational structure, roles, responsibilities, functions, staffing patterns of the following provincial level health service management
 - a. Provincial health related Ministry and its divisions
 - b. Provincial Centers
 - c. Provincial Department of Health Services and its Divisions and Sections
 - d. District Public Health Offices
 - e. Job descriptions of the district level human resources
- 3.3 Overview of authority of provinces to handle public health service and medical care related services and education programs in the province level
- 3.4 Appraisal of the ways public health services are addressed in the provincial and district level health service management system

Unit 4: Overview of Urban Municipality level health service management

8 hours

- 4.1 Overview of urban municipality health plan and programs (including public health and medical care)

- 4.2 Organizational structure, roles, responsibilities, functions, staffing patterns of the following urban municipality level health service management
 - a. Health division/section and units at the urban municipality
 - b. Ward level health services (public health as well as medical care)
 - e. Job descriptions of the municipality level human resources
- 4.3 Overview of authority of municipalities to handle public health service and medical care related services and education programs in urban municipality level
- 4.4 Appraisal of people's participation in village municipality level public health and medical care system
- 4.5 Appraisal of the ways public health services are addressed in the urban municipality level health service management system

Unit 5: Overview of Rural Municipality (Gaounpalika) level health service management 10 hours

- 5.1 Overview of rural municipality (Gaonpalika) health plan and programs (including public heal, medical care)
- 5.2 Organizational structure, roles, responsibilities, functions, staffing patterns of the following rural municipality level health service management
 - a. Rural municipality health section/unit
 - b. Health posts, health centers, outreach clinics, EPI clinics
 - e. Job descriptions of the rural municipality and health post/health center human resources
- 5.3 Overview of authority of rural municipalities to handle public health service and medical care related services and education programs in the village municipality level
- 5.4 Appraisal of people's participation in village municipality level public health and medical care system
- 5.3 Appraisal of the ways public health services are addressed in the rural municipality level health service management system

Unit 6: Health service management decentralization practice in Nepal **4 hours**

- 6.1 Organizational structure, roles, responsibilities, functions, staffing patterns of the following federal level health service management
- 6.2 Concept of decentralization in Nepalese context
- 6.3 Overview of state of organization structural decentralization
- 6.4 Overview of program and functional decentralization

5. Teaching-learning activities

Unit	Method/media
1- 6	Short lecture-discussion, document review and field to public health and medical facilities, library search, paper writing, individual and group assignment and presentation,

6. Evaluation scheme

Weaight age

- | | |
|---|-----|
| 1. External (University examination Sit-in written) | 80% |
| 2. Internal | 20% |
| a. Written examination (two examinations) | 50% |
| b. Class attendance | 25% |
| c. Class presentation and home assignment | 25% |

Reading materials

1. Dahal, AchutRaj, Textbook of Health Management. Kathmandu: Vidyarthi PustakBhandar, 2012.
2. Shakya, Karuna Laxmi. (Recent edition) Health Service Management in Nepal
3. Vati, Jogindra, Nursing Administration and Management, Jaypee, 2013
4. Department of Health Services. Annual Report (Recent report), Kathmandu.
5. Ministry of Health. National Health Policy (Recent policy), Kathmandu..
6. Government of Nepal: Documents on Federal structure in Nepal
7. Websites of Ministry of Health and Population; Materials on health service structure of federal, provincial, municipality and village levels.
8. National Health Policy Nepal 1991

9. Government of Nepal, HoHP, Health Sector Strategy –An Agenda for Reform 2004
10. MoHP, Nepal Health Development Partnership 2009
11. Government of Nepal, HoHP, National Urban Health Policy, Strategy and Action Plan on Primary Health Service Delivery System in the Municipalities of Nepal (2010 – 2014)
12. Government of Nepal, HoHP, Nepal Health Sector Strategies(2015 – 2020)
13. Government of Nepal, HoHP, Second Long Term Health Plan 1997-2017
14. Government of Nepal, NPC Different Periodic Health Plan
15. Hemang Dixit, Quest for Health

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health Program

1. Preliminaries

Course Title	Public Health Policy, Plan and Program in Nepal	
Fourth Year	Sixth Semester	Course Code: BPH 306.3 PHPPP
Credit Hours: 3Cr (48Hrs.)	Full Marks: 100	Pass Marks: 50

2. Course Description

It is imperative that public health practitioners working in the country are well oriented with national public health and medical care related policies, strategies, acts, plans and programs. Without orientation in these aspects practitioners cannot work well in the country. Therefore, this course is designed to equip the students with essential knowledge and skills regarding national health and medical policies, strategies, acts, plans and programs.

3. Course Objectives

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

1. Identify the role and functions that they could assume and discharge in relation to public health policies/strategies, plans and programs.
2. Identify provision for public health services medical care made in the Constitution of Nepal
3. List and explain public health and medical care related policy and strategy statement included national health policy.
4. List and highlight general features of selected public health related acts, plans and programs of Nepal
5. Describe the strengths and limitations of selected health strategies, acts, plans and programs.

4. Course Contents

Unit 1: Constitution of Nepal and public health and medical care
3 hours

- 1.1 Constitution of Nepal as the source of national health policy plans and programs

- 1.2 Highlights of constitutional provisions for public health and medical care services in Nepal
- 1.3 Critical review of strengths and limitations regarding public health and medical care provision made in the Constitution of Nepal

Unit 2: National health and related policies **10 hours**

- 2.1 Background of the current National Health Policy of Nepal
- 2.2 List and explanation of policy statements regarding public health and public health services (promotive, preventive, protective and epidemic control) included in the current National Health Policy
- 2.3 Brief overview of public health related selected policies of Nepal: (Examples)
 - a. National Safe Motherhood Policy
 - b. National Safe Abortion Policy
 - c. National Nutrition Policy
 - d. Oral health Policy
- 2.4 List and explanation of policy statements regarding medicine and medical care (medical practitioners, patient treatment, medical facilities including hospitals, drugs, etc.) included in the National Health Policy of Nepal
- 2.5 Brief overview of medical care service related selected policies of Nepal Examples:
 - a. National Blood Transfusion Policy
 - b. Free Health Care Policy
 - c. National Safe Abortion Policy (Medical/clinical aspects)
 - d. Nepal National Sanitation Policy
- 2.6 Overall strengths and limitations of the national health policy statements and their implementation

Unit 3: Public health and medical care strategies in Nepal **8 hours**

- 3.1 Meaning and purpose of strategies
- 3.2 List and explanation of public health related strategies included in the National Health Policy
- 3.3 Brief overview of public health service related selected strategies of Nepal (Examples)
 - a. Nepal Health Sector Strategy
 - b. National Neonatal Health Strategy

- c. National Nutritional Strategy
 - d. National HIV/AIDS Strategy
 - e. National Health Promotion Strategy
 - f. National School Health and Nutrition Strategy
 - g. National Reproductive Health Strategy
- 3.4 List and explanation of medical care related strategies included in the National Health Policy
- 3.5 Overall strengths and limitations of implementation of the public health and medical care strategies

Unit 4: Public health service and medical care related selected acts of Nepal **6 hours**

- 4.1 Meaning and purpose of acts
- 4.2 Brief overview of prominent public health related acts of Nepal (Examples)
- a. Tobacco Control Act
 - b. Nepal Health Service Act
 - c. Communicable Disease Act
 - d. Nepal Health professional Act
- 4.3 Overall strengths and limitations of implementation of the acts

Unit 5: Health Plans of Nepal **8 hours**

- 5.1 Background of current Long Term Health Plan
- 5.2 Public health service provision in current Long Term Health Plan
- 5.3 Background of current periodic (Five Year) health plan
- 5.4 Public health service provision in current periodic plan
- 5.5 Brief overview other plans having public health components
- Examples:
- a. National Safe Motherhood Plan
 - b. Human Resources for Health Strategic Plan
 - c. Nepal Health Sector Program- Implementation Plan
- 5.6 Overall strengths and limitations of implementation of the plans

Unit 6: Major Health Programs of Nepal **8 hours**

- 6.1 Meaning and purpose of health program

6.2 Overview of prominent health programs of Nepal from public health perspective

Examples:

- a. Child health programs
- b. Family health programs
- c. Disease control programs
- d. Health care social security programs
- e. FCHV program

6.3 Overall strengths and limitations of implementation of the programs

Unit 7: Health related international conventions, charters, and protocols binding Nepal **5 hours**

7.1 Brief overview of public health related provisions in the international conventions, charter, and protocols

Examples:

- a. International Health Regulations
- b. Framework Convention on Tobacco Control (FCTC)
- c. Ottawa Charter on Health Promotion
- d. Primary Health Care

7.2 Overall strengths and limitations of implementing the international conventions, charters, protocols in the national context

5. Teaching and Learning Activities

Unit	Methods
1 - 7	Short lecture, group discussion, document review, individual assignment and class presentation, library search, case presentation, document show

6. Evaluation Scheme

weightage

- | | |
|---|-----|
| 5. External (university Examination) | 80% |
| 6. Internal Assessment | 20% |
| a. Written examination (two examinations) | 50% |
| b. Class attendance | 25% |
| c. Class presentation and home assignment | 25% |

Reading materials

1. Constitution of Nepal
2. Ministry of Health. *National Health Policy*
3. Shrestha, Narayan. Swasthya Sewa Sambandhi Ain Tatha Niyamharu (Nepali), Kathmandu: PairabiPrakashan..
4. Related publications of Ministry of Health, Department of Health Services on policies, strategies, acts, plans and programs as mentioned in the various Units of this course
5. Department of Health. Annual Report, Kathmandu (recent Report)
6. National Health Policy Nepal 1991
7. Government of Nepal, HoHP, Health Sector Strategy –An Agenda for Reform 2004
8. Government of Nepal, HoHP, Nepal Health Sector Strategies(2015 – 2020)
9. Government of Nepal, HoHP, Second Long Term Health Plan 1997-2017
10. Government of Nepal, NPC Different Periodic Health Plan
11. Hemanga Dixit, Quest for Health
12. Government of Nepal, MoHP, FHD, *National Safemotherhood and Newborn Health – Long Term Plan 2006-2017*:
www.moHP.gov.np
13. Government of Nepal, MoHP, National Safe Abortion Policy 2002
14. Government of Nepal, MoHP, National Nutrition Policy 2006
15. Government of Nepal, MoHP, National Oral health Policy, 2070 BS
16. Nepal Health Sector Strategy-an agenda for reform 2004
17. National Neonatal Health Strategy, Nepal 2004
18. National Nutritional Strategy Nepal (recent)
19. National HIV/AIDS Strategy, Nepal (recent)
20. National Reproductive Health Strategy, Nepal (recent)
21. National Blood Transfusion Policy,Nepal (recent)

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Community Health Diagnosis and Intervention	
Third Year	Sixth Semester	Course Code: BPH 306.4 CHDI
Credit Hours: 3Cr (48 hours)	Full Marks: 100	Pass Marks: 50

2. Course Description

Community health diagnosis (CHD) is a comprehensive participatory assessment of the public health status of and need of an entire community in relation to its social, cultural, physical and environmental determinants of health of the community people. The purpose of CHD is to define existing problems, determine available resources and set priorities for community health problem, participatory planning, implementing and evaluating public health programs (interventions) in the community for the improvement in the health status of community people. This course is an integrated course comprising several subjects within the public health course. Therefore, this course is designed to provide students adequate knowledge and skills and to develop the favorable attitude of student's for facilitating community people to carry out CHD. Course contents cover concept, purpose, components and methods of community health diagnosis.

3. Course Objectives

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

1. Describe the concept and importance of community health diagnosis for public health.

2. Explain the components of comprehensive community health diagnosis in relation to social, cultural, physical, and environmental determinants of public health of the people.
3. Integrate the knowledge and skills of other several subjects within the public health course in the conceptualization of participatory community health diagnosis.
4. Identify the factors that may influence the health of community people.
5. Identify existing power structure in society, which affects health status of community people.

4. Course Contents

Unit 1: Understanding community health diagnosis (CHD) 20 hours

- 1.7 Definition of public health intervention and community health diagnosis (CHD) as the first and foremost component of public health intervention
- 1.8 Concept of CHD: Meaning, definition, purpose /objectives and importance of CHD in relation to public health
- 1.9 Difference between general health survey, community health diagnosis and clinical diagnosis
- 1.10 Components to be included in CHD in relation to public health
 - a. General profile of the community consisting of physical characteristics, health related infrastructures, socio-demographic composition of the population.
 - b. Statuses and causes of health risk factors, morbidity and mortality by age and sex
 - c. Knowledge, attitude and practices of people regarding health and diseases, promotion of health, prevention of health risk factors, injuries and disease, protection of health through immune system, control of spread of health risk factors and disease, early detection, treatment and compliance to treatment
 - d. Nutritional status; basic food habits, diet and weaning practices and breast-feeding practices
 - e. Environmental health situations like housing, water and sanitation, waste management, vectors of diseases

- f. Child health, adolescent health, reproductive health, family planning, occupational health communicable and non-communicable diseases, immunization and health risk behaviors, etc.
 - g. Cultural patterns and practices of a community related to health and disease.
 - h. Availability, accessibility and utilization of public health services (including intervention services) especially maternal and child health services
 - i. Availability of government and non-government health and extra health sector community resources for health development including agriculture, education veterinary and social services
 - j. Social stratification: existing diversities and discrimination and their effects on health and disease statuses
 - k. Community power structure and participation styles in health development programs
- 1.11 Highlights of methods of community health diagnosis
- a. Quantitative methods
 - Household survey (questionnaire survey)
 - Secondary data review
 - b. Introduction to qualitative methods (Meaning and procedures of the following) methods:
 - PRA/PLA
 - Focus group discussion (FGD)
 - Key Informant Interviews (KII)
 - Participant observation
- 1.12 Review of sampling methods
- Concept of sampling of key informants, general population, organizations working in the field of public health and medical care and related fields in the community
 - Techniques of sampling

Unit 2: Highlights of CHD plan with steps and activities of CHD
14 hours

2.1 Exploration of community for CHD

- 2.2 Selection of particular community for CHD
- 2.3 Setting objectives of CHD
- 2.4 Development of CHD tools
- 2.5 Pretesting and finalizing of CHD tools
- 2.6 Entering into and understanding the community
- 2.7 Organizing the community groups
- 2.8 Planning for community diagnostic survey: household sampling
- 2.9 Executing the survey
- 2.10 Analyzing and interpreting the data: qualitative and quantitative data management
- 2.11 Prioritizing the health problems
- 2.12 Findings presentation in community including techniques of data presentation
- 2.13 Recommendations for public health intervention plan and implementation
- 2.14 Format for report preparation of community health diagnosis

Unit 3: Public health intervention based on CHD

14 hours

- 3.1 Introduction to public health intervention (PHI)
- 3.2 Importance of PHI
- 3.3 Preparation of PHI
 - a. Identification of intervention project
 - b. Intervention planning, implementation and evaluation
- 3.4 Rapid intervention planning, (RIP)
 - Meaning, process and format
 - Community involvement in planning
- 3.5 Intervention implementation plan
 - Meaning, process and format
 - Community involvement in planning
 - Implementation, monitoring plan
- 3.6 Intervention evaluation plan
 - Meaning, process and format
 - Community involvement in intervention evaluation
- 3.7 Intervention dissemination plan
 - Dissemination in the community
 - Dissemination presentation at colleges

- Final report writing, compilation and submission
- Forman and techniques of dissemination

5. Teaching-Learning Activities

Unit	Method
1-3	Illustrative lecture, interactive and participatory T/L methods support by audiovisual materials, assignment and class presentation, role play, group work for community diagnosis planning and tools development, case presentation, literature review, case presentation

6. Evaluationscheme

weightage

3. External (University examination)	80%
4. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading materials

1. Hale, C; Shrestha IB, and Bhattacharya. Community Diagnosis Manual. Kathmandu: HLMC/IOM, 1996.
 2. Bennett, FJ. Community Diagnosis and health action: A Manual for Tropical and Rural Areas, 1997.
 3. Chambers, Robert (1997a), Whose Reality Counts? Putting the first last (London:Intermediate Technology Publications).
 4. WHO, Community Health Needs Assessment -An introductory guide for the family health nurse in Europe
:http://www.euro.who.int/__data/assets/pdf_file/0018/102249/E73494.pdf
 5. Community Health Needs Assessment Guidelines
:https://www.vitalitenb.ca/sites/default/files/chna_guidelines_final_june_2018.pdf
 6. Pretty, J. et all (1995), Trainers' Guide for Participatory Learning and Action, London: IIED.
- ७ फुयालकमल, (२०५५), पिआरण : अवधारणा र अभ्यास, काठमाडौं : नेपाल
 ८ फुयाल, कमल (२०७५), सहभागितामूलक स्वास्थ्यअवस्था निरूपण प्रक्रिया, काठमाडौं : सगुन

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

Applied Health Education and Promotion – Classroom Based Practice

1. Preliminaries

Course Title	Applied Health Education and Promotion – Classroom Based Practice	
Third Year	Sixth Semester	Course Code: BPH 306.1 AHEP-CBP
Credit Hours: 1Cr (32hrs)	Full Marks: 50	Pass Marks: 30

2. Course Description

As students are already empowered in developing health education materials in previous semester, in this course, students will be enabled to practice health education classes to their juniors and also in the community in different themes. This class room based course is intended to equip students with teaching learning skills that may be require in the future as one of the public health intervention to promote the health of community. Students will also be able to prepare lesson plan for their topic and conduct classes with the help of teaching learning materials under the direct supervision and guidance of subject teacher. Students will acquire practical knowledge and develop skill on applied health education.

3. Objectives

Upon the successful completion of the course, students will able to provide health education to different group in the community with the help of teaching learning materials and develop the competency skills as a health educator.

4. Class based practice procedure

a) Health teaching at class room setting

- The task of practical course is assigned individually to each student.
- Each student take at least 3 classes of health education in any topic related to health and disease to junior students
- Students self decide the topic with the guidance of concerned teacher and plan the health teaching classes
- Prepare lesson plan and develop relevant IEC materials
- The subject teacher guide students to prepare a good lesson plan before performing task. Students should mention the date, topic of discussion, objective and activity carried out of each practical session
- Student need to submit lesson plan of each session to public health faculty before health teaching class
- Evaluate the effectiveness of health teaching class by using appropriate tools

5. Maintain process

- Each students submit brief report including lesson plans of class room health teaching
- The report need to be signed by concerned subject teacher.
- Student should bring the report at the time of final examination

6. Evaluation scheme

	weightage (50 marks)
a) Attendance, discipline / Performance	15 Marks
b) Health teaching report evaluation	5 Marks
c) Final Practical Examination	30 Marks

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

**Community Health Diagnosis and Intervention –Residential
Field Based Practice**

1. Preliminaries

Course title	Community Health Diagnosis and Intervention –Residential Field Based Practice	
Third Year	Sixth Semester	Course code: BPH 306.4 CHDI-RFBP
Credit hours: 6 (192 Hrs.) (35 days residential field)	Full Marks: 100	Pass Marks: 60

2. Course descriptions

The residential field based practical course deals with basic concepts of understanding requirement and the purpose of community health diagnosis. It is the primary function of the public health personnel to be able to conduct the program at the community level and apply appropriate public health intervention to improve the health status of the community. The community diagnosis is made in order to define and describe the health status of the population (HSP) in a specific community. This practical course is designed to familiarize the real life situation of the community so students learn that the HSP is a complex phenomenon including morbidity, mortality, disability, composition and reproduction, and influenced by other related indicators, such as food supply and nutrition, educational level and opportunities, employment, etc. Student prepare community health diagnosis focusing major health problems/issues of the community and apply it for collecting data. Student will design a comprehensive nature project based on the prioritized finding and implement it during the field period. For this task, students perform residential field work for 35 days.

3. Objectives

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

- Design the community health diagnosis process plan.

- Facilitate a community health diagnosis process in actual setting/community.
- Collect quantitative and qualitative data together with community people using participatory tools and techniques of data collection.
- Analyze and interpret the data to form meaning from it.
- Identify the factors that may influence the health of community people
- Identify the health problems, its causes
- Design/plan a comprehensive community intervention project
- Identify and mobilize local resources including local people
- Implement the project
- Monitor and evaluate the project impact/effectiveness

4. Procedure (orientation at college on the following contents, students will be able to conduct community health diagnosis and do intervention)

a) Activities at college (Field Preparation) – 6 hours

- The practical course will be conducted in a group. The students will be divided into 9-10 members in each group.
- Site selections community diagnosis
- Individual group develop community health diagnosis data collection tools, pretesting, modification, and printing necessary sets
- Filed activities plan including field materials and departure to different communities

b) Activities at community (conduct community diagnosis) – 6 hours

- Community Interaction meeting /gather community information/rapport building, social mapping by involving local people/local stakeholders , sampling for household survey – **(3 days)**
- Data collection (quantitative, qualitative) – **(10 days)**
- Data analysis (quantitative, qualitative) – **(6 days)**
- Community presentation (preparation for community presentation, task division, decision for invitation, venue management, time, stakeholders, numbers of invitee, dispatching invitation letters,

presentation schedule, welcome to guest, presentation, receive community feedback, discussion of problems prioritization for intervention – (3 days)

c) Public Health Intervention – 5 hours

- **Project design and preparation (3 days):** based on the problem prioritization, students design a comprehensive intervention project for community health promotion and disease prevention with the community participation. While designing the public health intervention project, students decide the goal, objectives, strategies, activities, action plans, community resource mobilization, and monitoring and evaluation framework, monitoring and evaluation tools, community intervention dissemination plan. The intervention will be comprehensive and for one week duration for implementation. Project design will be done with involving community people.
- **Project Implementation (7 days):** After designing the public health intervention, students implement the project activities with community participation. Community people need to be encouraged for performing the task during project implementation. Students work together with community people as per action plan. The community participation approach is for developing community organization and participation for their health. Students with community people monitor the activities and evaluate the effectiveness by using tools.

d) Intervention dissemination at community – 1 hour

- Preparation for intervention dissemination at community – dissemination contents decision, invitation, venue management, prepare presentation materials (2 days)
- Final dissemination at community (1 day)

e) Draft report preparation at field and presentation at college

- Students need to prepare draft report during stay in the field and present at college.

f) Departure to residential field (different communities)

- Work in the field for 35 days and performed community diagnosis and public health intervention. Respective college supervise the students at field as per need of work by the students)

5. Maintain process of practical work

- The students are required to prepare final report and submission to department
- All reports should be signed by respective teacher, HOD, Principal and external evaluator
- All students must bring report in the final practical examination (viva)

6. Evaluation criteria: FM - 100

SN	Description	Weightage
1.	Student's attendance/discipline/team work	10%
2.	Pre field work (tools development and pretesting)	5%
3.	Data collected forms (hard copy) and entry file (soft copy)	5%
4.	Data analysis and first draft report preparation	10%
5.	Findings sharing (Community presentation) to community people	5%
6.	Comprehensive public health intervention planning, implementation and evaluation (local supervisor evaluation)	10%
7.	Final Community Health Diagnosis presentation among major stakeholders (Rural/Municipality)	5%
8.	Presentation by students at college and individual oral defense (external evaluation)	30%
9.	Community health diagnosis field report and log book (external evaluation)	20%
	Total	100%

Fourth Year Seventh Semester

Purbanchal University
Faculty of Medical and Allied Health Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Public Health Statistics and Computer Application-II	
Fourth Year	Seventh Semester	Course Code -BPH 407.1 PHSCA-II
Credit Hours: 3Cr (48 hrs)	Full Mark: 100	Pass Mark: 50

2. Course Description

This course is designed to impart the knowledge of public health statistics and computer application skills to the public the student's for conducting public health research. The course consist subject matters on public health statistics and computer application along with the description and appropriate use of statistics in public health practice. The students will learn the distinction of public health statistics with other statistics according to its uses in public health profession.

3. Course Objectives

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

1. Understand the key concepts on applied statistics
2. Identify and use of appropriate descriptive and analytic statistical measures
3. Describe and apply statistical concepts and knowledge in planning, implementing and monitoring public health programmes, policies
4. 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

5. Describe and generate information on the health status of a community
6. Analytical dissemination of public health information by using proper statistical tools
7. Inference on trend, tendencies and chances of public health issues
8. Describe concept of computer application in statistical procedures
9. Describe various computer software applicable to statistical procedures

4. Course Contents

Unit 1: Correlation and regression analysis

10 hours

- 1.1 Concepts of correlation scatter plot, Karl Pearson's coefficient correlation, Spearman rank correlation coefficient and its meaning and significance, properties of correlation coefficient and solve numerical problems
- 1.2 Explain the concept of regression analysis for two variables, cause and effect relationship, compute the regression coefficients and fit for simple linear regression model
- 1.3 Concepts of least square methods, residual analysis and coefficient of determination and its meaning and interpretation and solve numerical problems
- 1.4 Concept of multiple correlation coefficients, partial correlation coefficient and logistic, liner and multiple regression analysis, (SPSS output analysis for multiple regression analysis) assumption, examples and interpretation.

Unit 2: Sampling theory, Sampling distribution and Estimation

12 hours

- 2.1 Define terms used in sampling: population, study population, reference population, sample, sampling unit, sampling frame, parameter and statistic
- 2.2 Census and sample survey; merits and demerits
- 2.3 Criteria for selection of appropriate sampling technique in survey

- 2.4 Differentiation between probability and non-probability sampling
- 2.5 Describing probability sampling technique: simple random, stratified, systematic, cluster, multistage and probability proportionate to size sampling (PPS sampling)
- 2.6 Describing non-probability sampling technique: convenience, purpose, judgmental, quota sampling, and snowball
- 2.7 Lot quality assurance sampling
- 2.8 Sampling errors and non-sampling errors
- 2.9 Sampling distributions
 - a. Central limit theorem
 - b. Estimation: point and interval estimation of the mean, proportion of distribution and confidence interval
 - c. Standard error of mean and proportion for finite and infinite case
 - d. Distribution of sample mean, sample proportion and difference between two sample means and two sample proportions
 - e. Determination of sample size by appropriate using formulas

Unit 3: Inferential Statistics or hypothesis testing

26 hours

- 3.1 Concept of hypothesis: state and define null and alternative hypothesis and formulation of statistical hypothesis.
- 3.2 Type I and type II errors in testing of hypothesis
- 3.3 Normal distribution; concept, definition and characteristics
- 3.4 Normality test (computer based statistical software analysis output analysis)
- 3.5 Level of significance, p value and its interpretation and power of the test
- 3.6 Parametric and non-parametric test: Assumptions, examples and test statistics.
- 3.7 Non-parametric test of significance:
 - Chi-square test (test for proportion, goodness of fit and independence or association), Mc-Nemartest, Fisher Exact test: Assumptions, examples and interpretations, Runttest, Mediantest, sign test, Mann

- Whitney U test, Wilcoxon on Matched Pair signed-rank test: Assumptions, examples and interpretations
- 3.8 z-test for one sample & two samples means and proportions: Assumptions, examples and interpretation
 - 3.9 t-test for one sample & two samples means: Assumptions, examples and interpretations.
 - 3.10 t- test for correlation coefficient and regression coefficient
 - 3.11 One-way analysis of variance, two ways ANOVA (Computer based statistical software output analysis for two ways ANOVA): Assumptions, examples and interpretations.

7. Teaching-learning activities

Units	Method
1-3	Class lectures, calculation, class exercises, Practical problem-solving sessions, Review of journal articles on use of statistical methods,

6. Evaluation scheme

Weightage

- | | |
|---|-----|
| 1. External (University examination) | 80% |
| 2. Internal | 20% |
| a. Written examination (two examinations) | 50% |
| b. Class attendance | 25% |
| c. Class presentation and home assignment | 25% |

Reading materials

1. K.S. Negi., Biostatistics. AITBS publisher, India 2008.
2. Blair R Clifford, Taylor Richard A, Biostatistics for health sciences, Pearson education inc, Prentice Hall, Indian edition Dorling Kindersley India Pvt Ltd, 2009
3. Pagano Marcello and Gauvreau Kimberlee, Principles of Biostatistics, Cengage LearningIndia Private Ltd, New Delhi, 2008
4. Rosner Bernard, Fundamentals of Biostatistics, Duxbuey Thomson Learning, seventh edition, 2010
5. Wayne W. Daniel. Biostatistics A foundation for analysis in the health sciences, Wiley India(P) Ltd, New Delhi, 2007

6. Panta Prem Prasad. Biostatistics, Vidyarthi PustakBhandar, Bhotahity, Kathmandu, 2011
7. ZarJerrolad H. Biostatistical Analysis, Prentice Hall, 1999
8. Sukubhattu Narendra Prasad Probability theory & Statistical Methods Edition, 2066
9. Mahajan BK "Method in Biostatistics" Latest edition published by Smt. Indu Mahajan Pusa Road, New Delhi, latest edition, recent publication.

Purbanchal University
Faculty of Medical and Allied Health Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Public Health Research	
Fourth Year	Seventh Semester	Course Code: BPH 407.2 PHR
Credit Hours: 3 Cr (48hrs.)	Full Marks: 100	Pass Marks: 50

2. Course Description

Public health practitioners often need to use scientific information in planning, implementing, evaluating and managerial decision-making of public health intervention programs. One way to generate scientific information is research. Therefore, the students during their study period are needed to understand concept and develop basic research skills and this course is designed to fulfill this need. Course includes basic concept of public health research, steps of research, field research, report writing and ethical consideration to be observed during research work.

3. Course Objectives

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

14. Describe concept of public health research including its premise, importance and types.
15. List steps of public health research and describe them in details.
16. Identify and describe various components that have to be considered in the introductory part of the research.
17. Identify and describe various components of research methodology.
18. Describe work to be done during field research.
19. Describe various steps of data entry, processing and analysis and perform the steps with simulated data.
20. Describe various components of research report and ways of disseminating the report.
21. Explain the ethical considerations that need to be observed during research.

22. Describe the ways research results can be utilized for public health intervention programs/projects.

4. Course Contents

Unit 1: Introduction to public health research **5 hours.**

- 1.17 Overview of roles and functions (decision making during planning, implementation and evaluation of public health interventions) of public health practitioners regarding public health research
- 1.18 Meaning, definition of scientific research and difference between search and research
- 1.19 Overview of Siddhartha Gautama's Fourfold Noble Truths (*Chaturtha Aaryasattya*) as premise for conducting public health research:
- d. ***Truth of Suffering*** (Reality of prevalence of public health problems/issues)
 - e. ***Cause of Suffering*** (Causes, reasons or factors of public health problems/issues)
 - f. ***Truth of Cessation of Suffering*** (Possibility of mitigating the causes reasons or factors of public health problems/issues)
 - g. ***Truth of the Path to the Cessation of the Cause of Suffering*** (Recommendations of actions to mitigate the causes, reasons, or factors of public health problems/issues)
- 1.20 Distinction between public health research and bio-medical research
- 1.21 Broad types of research:
- e. Basic (Pure) and applied research
 - f. Qualitative and quantitative research
 - g. Descriptive and analytical research
 - h. Formative and evaluation research
- 1.22 Overview of steps of research: From research problem identification to research report writing and dissemination

Unit 2: Research problem and literature review **4 hours**

- 2.1 Identification of research problem: Meaning, techniques and prioritization
- a. Possible research areas in public health:

- Promotion, prevention, protection, control aspects of public health themes such as nutrition, physical exercises, health risk factors, environmental health, reproductive health, communicable and non-communicable disease etc.
 - Public health interventions such as health education, empowerment, policy-regulation, community health intervention, public health, community organization and participation, infrastructures, and public health management related to public health theme and actions
- 2.2 Criteria for a researchable problem and determination of research theme or topic
- 2.3 Review of literature: Meaning, sources, importance, stages, technique of note taking, referencing style (Vancouver, Harvard, APA) and software (End note, Mendeley, Zotero)
- 2.4 Background of the study
- 2.5 Conceptual framework of entire study and statement of research problem
- 2.6 Rational of the study

Unit 3: Research objectives, questions, hypothesis, variables and conceptual framework **4 hours**

- 3.1 Research objectives: need, types, and ways of writing
- 3.2 Research questions: need, types, ways of writing and deciding research question only and or hypothesis also
- 3.3 Research hypothesis: Definition, need, purpose, types, and ways of writing hypothesis
- 3.4 Meaning of concept, construct and variables
- 3.5 Variables: Types, conceptual framework, operational definition and ways of writing operational definitions of variables
- 3.6 Rationale and possible limitations of the study

Unit 4: Methodology of the research **16 hours**

- 4.1 Highlights of components of research methodology
- 4.2 Research methods: Meaning, need and types
- a. Quantitative research methods: Survey method
 - b. Qualitative research methods; Case study, Grounded Theory, Ethnographic, Action research
 - c. Criteria for choosing appropriate research method
- 4.3 Research designs: Meaning, need and types

- a. True experimental designs: Randomized control community trials; Examples, randomized control group post-test only, randomized control group pretest-posttest, The Solomon's Four Group design, parallel design, nested, cross over
 - b. Quasi-experimental designs: Examples, One group time series, control groups time series, non-equivalent control group, separate sample pretest-posttest
 - c. Non-experimental designs: Examples, Cross sectional-Post Test Only design, one group-Pretest-posttest only design, static group comparison design
 - d. Criteria for choosing appropriate research design
- 4.4 Study area, study population and sample
- a. Study area: meaning, types and selection criteria
 - b. Study population: Meaning, selection according to the study area, census or sample, implication of census in selection of statistical tools
 - c. Sample and sampling:
 - Sample population and sample, determination of sample size including calculation techniques
 - Sampling techniques: probability and non-probability sampling techniques
 - Probability sampling techniques: Simple random, Stratified, Systematic, Cluster, multistage and probability proportionate to size sampling
 - Non-probability sampling techniques: Convenience, Purposive, Judgemental, Snowball
 - Lot quality assurance sampling
- 4.5 Data collection methods and Instrumentation
- a. Primary data collection methods:
 - Quantitative data collection methods: Survey (face-to-face interview, questionnaire)
 - Quantitative data collection instruments: Survey questionnaire, interviewschedules including attitude measurement scales
 - Qualitative information collection methods: Focus Group discussion (FGD), In-Depth Interview (IDI), Participatory Rural Appraisal (PRA), observation, case study

- Qualitative information collection instruments: FGD guide, IDI guideline, observation checklist, case study recording form
- b. Secondary data/information collection methods and instruments:
 - Secondary data/information collection methods: reviewing official documents, survey reports, census report, journal articles, case profiles
 - Secondary data/information collection instruments: review guidelines, information recording forms
- d. Techniques of construction of instruments: deciding appropriate instruments, criteria for a good instrument, techniques of maintaining validity and reliability of the instruments, pre-testing or pilot study

Unit 5: Field data/information collection

3 hours

- 5.1 Data collection process
 - a. Deciding data/information collectors and supervisors
 - b. Training or orientation of data/information collectors: developing training guide, conducting training sessions including field practice
 - c. Preparing logistics for mobilizing data/information collectors
- 5.2 Approach to the population/sample in the study area
- 5.3 Collection of data/information
- 5.4 Supervision of data collection work and checking
- 5.5 Checking of collected data in the field itself
- 5.6 Compilation of filled up data collection instruments

Unit 6: Concept of data processing and analysis

5 hours

- 6.1 Data entry: pre-entry compilation, deciding data entry software (SPSS, Epi-Enfo etc.) developing codebook, coding, programming, entering data, checking entered data (manual or computer checking)
- 6.2 Generating data output, checking the output
- 6.3 Concept of analysis of data according to research questions, hypothesis and statistical toll to be used:
 - a. Generation of uni-variate tables, graphs, charts with all statistics

- b. Generating bi-variate tables, graphs with required statistics
- c. Generating correlation graphs, charts with statistics
- d. Generating multi-variate tables, charts with statistics
- e. Categorization and reanalysis of data to make the data meaningful to the hypothesis
- f. Transcribing, sorting, narration, content analysis (Qualitative information)

Unit 7: Report writing **4 hours**

7.1 Report writing according to the prescribed outlines/format (Format given)

The three fundamental criteria of a good report:

- a. Satyam (full of empirical evidences)
 - b. Shivam (usable applicable findings and recommendations)
 - c. Sundaram (readable, attractive/appealing, standard formatting writing style)
- 7.2 Highlights of main parts of the report and ways of writing them
- a. Preliminaries
 - b. Background or introduction
 - c. Methodology used
 - d. Findings, discussion or interpretation
 - e. Summary, conclusion, and recommendations
 - f. Dissemination plan
 - g. References/bibliography
 - g. Annexes

Unit 8: Report dissemination **3 hours**

- 8.1 Meaning and importance of research report dissemination
- 8.2 Ways of dissemination: Presentation in stakeholders meeting, presentation to the beneficiaries, publication in scientific journals or magazines
- 8.3 Scientific report/paper writing: Manuscript writing: features and style (practical in PSD course)
- 8.4 Dissemination to incorporate research findings in public health program planning, evaluation and management decision-making

Unit 9: Research ethics **4 hours**

- 9.1 Meaning and principles of research ethics

- 9.2 Helsinki Declaration and application of related section in public health research
- 9.3 Nepal Health Research Council and Understanding of National Ethical Guidelines for Health Research in Nepal prepared by Nepal Health Research Council and its application in public health research
- 9.4 Introduction to Ethical Review Board (ERB) and Institutional Review Committee (IRC) for health research in Nepal
- 9.5 Need for avoiding plagiarism in research

5. Teaching-learning activities

	Method/media
1-9	Interactive lecture, Group discussion, Individual and group assignment on simulated cases followed by presentation, Interactive and participatory methods supported by audiovisual materials and equipment, literature review, proposal writing

6. Evaluation scheme

Weightage

- | | |
|---|--------|
| 1. External (University examination) | 80% |
| 2. Internal | 20% |
| a. Written examination (two examinations) | 50% |
| b. Class attendance | 25% c. |
| Class presentation and home assignment | 25% |

Reading materials

1. Guest, Greg, Emily E. Namey (Edr.) ***Public Health Research Methods***. USA: SAGEPublication Inc. 2015
2. Ramachandran, P. ***Survey Research in Public Health***, New Delhi: PHI LearningPrivate Limited, 2012
3. Kothari, CR, ***Research Methodology: Methods and Techniques***, India: Will Eastern Ltd
4. World Health Organization. ***Health Research Methodology: Guide for training in Research Methods***, Manila: WHO, 2001
5. WHO 2004, A Practical Guide for Health Researchers, WHO Regional Publications Eastern Mediterranean

6. Burns, Nancy, *Fundamentals of Nursing Research*
7. Nepal Health Research Council, *National Ethical Guidelines for Health Research in Nepal*, Kathmandu: NHRC (Recent edition)
8. Nepal Health Research Council, *National Training on HIV and AIDS Research for Community Members and Beneficiary Group Representatives Training Manual 22015*, Kathmandu: NHRC 2015.
9. Sharma, Suresh K *Research Methodology and Biostatics: A Comprehensive Guide for Health Care Personnels*, Haryana: Rajkamal Electric Press
10. Yogesh Kumar Singh 2006, *Fundamental of Research Methodology and Statistics*, New Age International (P)limited, Publisher

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health program

1. Preliminaries

Course Title	Health Program Supervision, Monitoring and Evaluation	
Fourth Year	Seventh Semester	Course Code: BPH 407.3 HPSME
Credit hours: 3Cr (48hrs)	Full Marks: 100	Pass marks: 50

2. Course Description

It is imperative for public health practitioners to take role of supervisor, monitor and evaluation particularly of public health intervention programs. Therefore, this course is designed to help students develop basic concept and skills of public health program implementation, supervision, monitoring and evaluation. To develop such knowledge and skills the course consists of theory and practical aspects of program implementation, supervision, monitoring and evaluation.

3. Course Objectives

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

1. Explain the meaning and importance of health program monitoring and evaluation
2. List and describe strategic components of effective program implantation
3. Briefly describe public health program implementation practice in Nepal
4. Explain concept of program supervision, monitoring and evaluation
5. Describe steps, methods, tools of health program supervision, monitoring and evaluation
6. Explain the ways of utilizing health program supervision, monitoring and evaluation results
7. Briefly describe health program supervision, monitoring and evaluation practices in Nepal

4. Course Contents

Unit 1: Public health service: Program/intervention implementation 12 hours

- 1.1 Review of concept of health service programs into two broad categories
 - a. Public health intervention programs focused on health of the healthy people and
 - b. Medical care intervention programs focused on unhealthy (ill/diseased) people
- 1.2 Program intervention plan as guide for program implementation. Program implementation as the basis of supervision, monitoring and evaluation
- 1.3 Definition of program implementation
- 1.4 Strategic components that are necessary for effective public health program implementation:
 - a. Identification of key implementers
 - b. Through understanding of the plan
 - c. Communicating the plan to the key stakeholders
 - d. Soliciting commitment from relevant implementation partners including political commitment
 - e. Capacity building of various levels and categories of implementers
 - f. Resource mobilization and partnership building
 - g. Establishment of inter-sector cooperation/collaboration with implementation partners
 - h. Translating implementation schedules into action
- 1.5 Overview of public health program/ implementation practice in various levels of health service management: From federal to local level government in Nepal
- 1.6. Managerial control mechanisms to ensure effective program implementation
 - a. Supervision of program implementation
 - b. Monitoring of program implementation
 - c. Evaluation (particularly formative/mid-term) of program

Unit 2: Public health program/intervention supervision 12 hours

- 2.1 Highlights of opportunities of supervision for public health practitioners
- 2.2 Definitions, purpose and principles of supervision

- 2.3 Types and models of supervision
- 2.4 Themes for supervision:
 - a. Organization as a whole supervision and supervision of staff or personnel
 - b. Supervision of public health specific themes and activities (*core actions, such as* performance in promoting and protecting health,, prevention of risk factors and illness, epidemic control and treatment encouragement activities), *and intervention domains*, such as health education and health promotion, community organization , mobilization and participation)
 - c. Supervision of basic medical care activities
- 2.5 Procedural steps of supervision including methods, tools, and tips for effective supervision
- 2.6 Definition, standards, contents of supervision
- 2.7 Methods and tools of supervision
- 2.8 Results of supervision and measures to be taken based on the results (non-punitive and punitive measures)
- 2.9 Utilization of supervisory results for better management of public health programs
- 2.10 Overview of public health program intervention supervision practice in Nepal
 - a. Hierarchy of supervision from federal to municipality level public health service and medical care delivery centers
 - b. Health program supervision processes adopted at various levels of service delivery
 - c. Integrated supervision cycle propounded by Ministry of Health and Population, Nepal: a. Supervision planning b. Supervision visits c) Reporting, d)Implementation and feedback
 - d. Processes of incorporating supervision results into program operation

Unit 3: Public health program/intervention monitoring 12 hours

- 3.1 Highlights of opportunities of monitoring for public health practitioners

- 3.2 Monitoring of public health specific subjects and activities (*core actions, and intervention domains*) and other related activities of the organization as a whole and its staff
- 3.3 Definitions, purpose, importance, principles and main features of monitoring
- 3.4 Difference between supervision and monitoring
- 3.5 Types and models of monitoring
- 3.6 Aspects of monitoring: Milestones, material input, human resources, finance
- 3.7 Design and procedural steps of monitoring: Development of tools, identification and training/orientation of monitors, information collection and analysis of information, drawing conclusions and recommendations
- 3.8 Participatory monitoring method
- 3.9 Result based monitoring: Meaning, logical framework, methods
- 3.10 Methods, tools (including logically framed implementation schedule with milestones/timing), and tips for effective monitoring
- 3.11 Results of monitoring, measures to be taken based on the results, and utilization of monitoring results for better management of public health programs
- 3.12 Overview of national health program/intervention monitoring system in Nepal
 - a. The National Health Sector Strategy Result Framework, Mid Term Reviews and Periodic Reviews as guidelines for health program monitoring
 - b. Health program performance monitoring processes adopted at various levels of service delivery: from federal to local level government
 - c. Processes of incorporating monitoring results into program operation

Unit 4: Public health program/intervention evaluation 12 hours

- 4.1 Highlights of opportunities of evaluation for public health practitioners
- 4.2 Evaluation of public health specific subjects and activities (*core actions, and intervention domains*) and other related activities of the organization as a whole

- 4.3 Definitions, purpose, importance, principles and main features of evaluation
- 4.4 Difference between monitoring and evaluation
- 4.5 Themes for program evaluation:
 - a. Themes by public health actions (promotive health programs, health risk and disease prevention programs, health protection including immunization programs, epidemic control programs)
 - b. Theme by basic curative services
 - c. Themes by intervention programs: health education intervention, health promotion intervention, policy and legal intervention, community organization and participation intervention, infrastructural intervention)
 - d. Themes by cost involvement: cost-effective, cost-benefit, cost efficiency evaluations
- 4.6 Types and models of evaluation: Front-end or program evaluation, formative or process or mid-term evaluation, summative or end-line or outcome evaluation
- 4.7 Designs and methods of evaluation
- 4.8 Process of evaluation:
 - a. Phase I Planning: Understanding the evaluation theme, problem statement, setting objectives and rationale, selecting evaluation methods and design, development of indicators and measurement tools, develop timeframe
 - b. Phase II Execution: Identification and training/orientation of evaluator team, information collection and analysis, drawing conclusions and recommendations
- 4.9 Participatory evaluation method: meaning, importance and features
- 4.10 Result based evaluation: Meaning, logical framework, methods
- 4.11 Results of evaluation and measures to be taken based on the results:
 - a. Continuation of the program as it is
 - b. Continuation of program with changes
 - c. Postponement of the program
 - d. Termination of the program
 - e. Replication of the program
- 4.12 Utilization of evaluation results for better management of public health programs
- 4.13 Overview of health program/intervention evaluation system in Nepal: From federal level to local government level

5. Teaching-Learning Activitie

Unit	Method/media
1- 4	Interactive lecture, Group discussion, Individual and group assignment on simulated cases followed by presentation, Interactive and participatory methods supported by audiovisual materials and equipment, document review.

6. Evaluation Scheme

	<u>weightage</u>
1. External (University examination Sit-in written)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading materials

1. Management Division. Guidelines for Integrated Supervision of health service Programs. Kathmandu: Department of Health services 2066
2. Dahal, AchutRaj. Textbook of Health Management. Kathmandu: Vidyarthi PustakBhandar, 2012
3. Shakya, Karuna Laxmi. Health Service Management in Nepal
4. Vati, Jogindra, Nursing Administration and Management, Jaypee 2013
5. Department of Health Services. Annual Report (Recent report), Kathmandu.
6. Federal, Provincial, Municipal and Local Level Administration guidelines for health program supervision, monitoring and evaluation
7. Uprety, Singh Raj, Fundamentals of Monitoring and Evaluation, Kathmandu, 2008
8. MOHP, NHSSP, WHO. Monitoring and Evaluation Framework, Kathmandu, 2012
9. National Planning Commission. Result Based Monitoring and Evaluation Guidelines, Kathmandu, 2010

Purbanchal University
Faculty of Medical and Allied Health Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Health Economics and Financing	
Fourth Year	Seventh Semester	Course Code: BPH 407.4 HEF
Credit hours: 3Cr (48 Hrs.)	Full Marks: 100	Pass Marks: 50

2. Course Description

Though there may be a separate section or unit to look after the financial aspect of an organization the highlevel public health practitioners need to deal with the financial procedures in one way or another. Therefore, this course is designed to provide the students of public health with overall knowledge and some practical skills regarding basic elements of health economics and financial management. Since they will be practicing under the banner of public health emphasis has been given to develop cognitive skill of distinguishing between economics and finance of public health services and economics and finance of medical care (treatment of injuries and illnesses or diseases) The themes in this course include public health economics, financial management, and public health insurance with special reference to Nepalese context.

3. Course Objectives

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

1. Identify the role and functions of highlevel public health practitioners regarding economic aspect of public health services
2. Define public health economics distinct from medical care economics
3. List and describe the basic components or scope of public health economics
4. Explain the dynamics of demand and supply of public health services
5. Describe public health financial management including financial planning, budgeting accounting and auditing procedures

6. Describe the concept and methods of economic evaluation of public health interventions
7. Highlight the economic and financial management system of public health services compared with that of medical care in Nepal
8. Critically explain the current perception of health insurance and describe the characteristic of public health insurance differently from medical care insurance

4. Course Contents

Part I Public health economics

Unit 1: Introduction to public health economics 8 hours.

- 1.13 Highlights of health economics in relation to the three domains of public health i.e. *thematic*, (nutrition, environmental health, diseases etc.) *core actions* (promoting health, preventing health risk factor and disease, protecting health, controlling epidemics, encouraging treatment *and intervention* (health education, health promotion, legal intervention, infrastructural intervention etc.) *domains*
- 1.14 Highlights of roles and functions of public health practitioners regarding economics of public health
- 1.15 Definitions of: a) health economics, b) public health economics and c) medical care economics and their differentiation
- 1.16 Highlights of public health and medical care economic and financing related functions of public health practitioners and need for studying the course
- 1.17 Highlights of basic scope or components of public health economics:
 - a. Value of health over illness,
 - b. Scarcity of resources for public health
 - c. Demand for and supply of (market) public health services
 - d. Public health service market
 - e. Resource allocation (Investment) or financing in public health
 - f. Public health sector budgeting

- g. Cost-benefit of public health
 - h. Equity (vertical and horizontal) in public health,
 - i. Economic evaluation at public health *core actions* level
- 1.18 Value of health (healthy state)
- a. Health as resource and economic value of health
 - b. Health-economic cycle
 - c. Illness-economic cycle
 - d. Health as a consumption as well as investment good

Unit 2: Demand and supply of public health service 8 hours.

- 2.1 Definitions of demand of public health service (core actions and interventions) as compared to definitions of demand of medical care
- 2.2 Determinants of demand of public health service
- 2.3 Law of demand and elasticity in the context of demand for public health service
- 2.4 Strategies for creating people's demand for public health services and goods (commodities)
- 2.5 Definitions of supply of public health service as compared to definitions of supply of medical care
- 2.6 Determinants of supply of public health service
- 2.7 Law of supply and elasticity in the context of supply of public health service
- 2.8 Strategies for increasing public sector supply and creating NGO sector supply of public health services and goods
- 2.9 Supply induced demand for public health service and goods in contrast to demand driven supply of public health services and goods
- 2.10 Overview of public health service and goods demand and supply market system and role of government and NGOs in promoting public health marketing
- 2.11 Meaning of equilibrium in public health demand and supply market

Part II Public health financing and financial management

Unit 3: Introduction to public health financing **4 hours**

- 3.1 Highlights of roles and functions of high level public health practitioners regarding public health financing as control mechanism
- 3.2 Definitions of: a) public health financing and 2) medical care financing and their differentiation
- 3.3 Sources and mode of public health services and medical care financing
 - a. **Sources:** Public (government); NGO; private; individuals
 - b. **Modes:** Government revenue; development partners' contributions; community financing, individuals' out-of-pocket payment etc.
- 3.4 Definition, functions, and scope and components of public health financial management
 - a. **Scope:** Anticipation, Acquisition, Allocation, Appropriation, Assessment

Unit 4: Public health financing in Nepal **4 hours**

- 4.1 Overview of public health service and medical care financing system of Government sector and non-government sector in Nepal
- 4.2 Critical review of financing public health services in Nepal using the National Health Account Framework (NHAF)
- 4.3 Assessment of balance in public investment in public health services and medical care services
- 4.4 Professionals/practitioners' actions for increasing the government and NGO financing in public health interventions

Unit 5: Overview of budgeting **4 hours**

- 5.1 Definitions of: a) public health budgeting and 2) medical care budgeting and their differentiation
- 5.2 Objectives, principles and types of public health budgeting
 - Types:
 - a. Master or program budget and operating/functional budget
 - b. Long term, short term and concurrent budget
 - c. Fixed,/flexible and recurrent budget
 - d. Regular and development,

- 5.3 Budgeting process with special reference to Nepal: preparation, approval, execution, control, review and auditing
- 5.4 Introduction to budget sheet including components and preparation of sample budget sheet for public health core actions and interventions on selected public health theme

Unit 6: Financial management with particular reference to Nepal

5 hours

- 6.1 Definition, objective and key elements of public health financial management
- 6.2 Definition, objective and steps of public health financial planning
- 6.3 Meaning of the following elements of book-keeping and their sample preparation
 - a. Single-entry and double entry book-keeping
 - b. Books: Day, Pity Cash,
 - c. Voucher
 - d. Journal, Ledgers, Balance Sheet
- 6.4 Accounting of public health finance: Definition, elements and types
- 6.5 Auditing: Definition, purpose, types (external, internal) and process

Unit 7: Economic evaluation of resource utilization (investment) in public health services (core actions and interventions)

6 hours

- 7.1 Definition, importance, types and steps of economic evaluation of public health services:
- 7.2 Definition of public health service cost in contrast to medical care cost
- 7.3 Types of costs involved in public health service
- 7.4 Definition, types and steps of cost analysis in public health services:
 - a. Cost- utility analysis
 - b. Cost-minimization analysis
 - c. Cost-effectiveness analysis
 - d. Cost-benefit analysis
 - e. Cost-efficiency-equity analysis

- 7.5 Measuring contribution of investment in public health interventions for promoting health, risk factors, injury, disease prevention, protecting health, controlling epidemics, and encouraging for early detection, treatment and compliance to:
 - a. the reduction of medical care (treatment) cost to government and individuals
 - b. the increase in earning capacity of individuals by reducing the disability led loss of work-days
- 7.6 Processes of various types of analysis for economic evaluation of public health services including standard setting, criteria setting, establishing indicators, deciding methods and tools
- 7.7 Utilization of economic evaluation results in planning and financing public health services

Unit 8: Overview of government sector public health financing and financial management system in Nepal **4 hours**

- 8.1 Investment in public health interventions on core public health actions related to major health issues
- 8.2 Budgeting, financial planning, book-keeping, accounting, auditing, economic evaluation
- 8.3 A case study of socio-economic impact and outcome of investment in prevention, control and encouragement for early detection, treatment and compliance to treatment of malaria in Nepal

Unit 9: Public Health Insurance vs Medical Insurance Introduction **5 hours**

- 9.1 Public health practitioners' roles and functions regarding public health insurance
- 9.2 Definition and features of health insurance differently from medical care insurance including critical discourse on present practice of misled labeling of medical insurance as health insurance
- 9.3 Medical insurance: A flourishing business built on deficiency in public health measures
- 9.4 Types of public health insurance and medical insurance
- 9.5 Payment and benefit systems in public health insurance and medical insurance

- a. Premium payment: Government/NGO payment and out-of-pocket payment
 - b. Direct health benefits and health outcome benefits
- 9.6 Brief overview of management aspect of public health insurance and medical insurance
- 9.7 Overview of use of medical insurance as a part of social security schemes/and business promotion tool in Nepal

5. Teaching-learning activities

Unit	Method/media
1-9	Interactive lecture, Group discussion, Individual and group assignment on simulated cases followed by presentation, Interactive and participatory methods supported by audiovisual materials and equipment, case studies

6. Evaluation scheme

	<u>Weightage</u>
1. External (University examination)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading materials

1. Rexford E. Santere, Stephen P. Neun. *Health Economics: Theories, Insights, and Industry Studies*. Irwin Book Team. 1996
2. Phelps, Charles E “*Health Economics*” Boston: Addison Wesley, 2003
3. Mills A, Gilson L “*Health Economics for developing countries*” A survival kit, EPC publication number 17, Summer 1988 (Reprinted August 1992)
4. Clewer Ann and D Parkins. *Economics for Health Care Management*. Prentice Hall.1998.
5. Folland, G., A.C. Goodman, and M. Stano. *The Economics of Health and Health Care*. Prentice Hall.1997.
6. William Jack. *Principles of Health Economics for Developing Countries*. The World Bank.1999

7. Michael Drummond and etal.: *Methods for the Economic Evaluation of Health Care Program*, Oxford University Press, 2nd Edition, 1998
8. Cam Dondalson and Karen Gerard: *Economics of Health Care Financing: The visible Hands*, The Macmillan Press Ltd. 1993
9. Thomas E. Getzen: *Health Economics: Fundaments and Flow of Funds*, Temple University USA. John Wieland Sons, 1997
10. Commission on Macroeconomic and Health (CMH) Report WHO, Geneva 2001Dror DM, Preker AS.: *Social Reinsurance, A New approach to Sustainable Community Health Financing*, ILOand the World Bank, 2002
11. Santerre, Neun SP.: *Health Economics-Theory and Practice*, 1996HMG Nepal, *Fiscal and Monetary Policy*
12. Witter S., Ensor T., Jowett M.: *Health Economics for Developing Countries-practical guide*, The University of New York.
13. Vati, Jogindra. *Nursing Management and Administration*, New Delhi: Jaypee Brothers Medical Publishers (P), Ltd, 2013.
14. Ministry of Health and Population, *Nepal National Health Accounting*
15. Ministry of Health and Population. Guidelines for National Health Insurance Scheme

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health Program

1. Preliminaries

Course Title	Health Management Information System and Logistic Management (HMISLM)	
Fourth Year	Seventh Semester	Course Code: BPH 407.5 HMISLM
Credit Hours: 3Cr (48hrs)	Full Marks: 100	Pass Marks: 50

2. Course Description

This course is designed to equip the students with essential knowledge and skills regarding health service management information system. In order not to underestimate the importance of public health service management information system this course intends to clarify the differences between public health, medical care and service support management information systems. Emphasis is given to integrated health service management information, logistic management information and human resource management information systems in addition use of informatics in the management information systems.

3. Course Objectives

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

1. Identify the role and functions of public health practitioners regarding health service management information system.
2. State the meaning of major terminologies used in health service management information system.
3. Describe concept of health service management information system.
4. Describe the concept of logistic management system.
5. Describe the concept of human resource management information system.
6. Describe the place and importance of informatics in health service management information system.
7. Critically review the health service management system practiced in Nepal.

4. Course contents

Unit 1: Introduction to health service management information system (HSMIS) 8 hours

- 1.1 Definition of information, information system, and health service management information system (HSMIS)
- 1.2 Purpose, importance and use of HSMIS
- 1.3 Specific classification of HSMIS
 - a. Data-bank information system
 - b. Predictive information system
 - c. Decision-making information system
- 1.4 MIS by category of services
 - a. Meaning and contents of public health and support service information to be included in the management information system
 - b. Meaning and contents of medical and medical care support service information to be included in the management information system
- 2.5 Highlights of major types of HSMIS
 - a. Integrated HSMIS
 - b. Logistic Management Information System (LMIS)
 - c. Fiscal Management Information System (FMIS)
 - d. Human Resource Management Information System ((HRMIS)
Overall functions of HSMIS
- 2.5 Uses of information at national, sub-national and local level

Unit 2: Integrated health service management information system (HSMIS) with particular reference to Nepal 6 hours

- 2.1 Maintaining health service management information system;
- 2.2 Various HSMIS recording and reporting tools
 - a. Types and formats of the tools
 - b. Contents or components of various recording and reporting tools
 - b. Frequency of filling
 - c. Mechanisms of filling
 - d. Forwarding various HSMIS forms from various levels (origin to destiny) of health and medical services

- 2.3 Mechanisms of assuring quality of health service management information
- 2.4 Desired organizational structure and appropriate human resources for effective management of health service information system
- 2.5 Distinction between public health service management information system, medical care management information system and human resource management information system

Unit 3: Overview of public health service and medical care management information system (MIS) in Nepal 8 hours

- 3.1 Status of perception of public health and medical care management information
- 3.2 Objectives, strategies and major activities
- 3.3 Organizational structure and human resource provision for management information system at federal, provincial and local level administration
- 3.4 HSMIS process, including number of forms used, contents of the forms, and computer application in the system
- 3.5 Issues and opportunities of management information system

Unit 4: Introduction to logistic management information system (LMIS) - 9 hours

- 4.1 Definition of logistics and in the context of public health and medical care services
- 4.2 Commodity logistics: goods supplies, equipments, apparatus
- 4.3 Classification of commodities:
 - a. Non-disposable and disposable
 - b. Public health service commodities used for.
Examples:
 - Promotive and preventive health services (nutrition supplement, physical exercise equipment, disinfectants, water purification agents, contraceptives, toilet pans, filters, waste disposal contraceptives, fumigation agents, sprayers, iron-vitamin supplements)
 - Health protecting services (vaccines, cold-chain containers, freezers, personal protective equipment for physical protection)
 - Epidemic control and disaster effect prevention

- Health status screening actions (vision test charts, hearing test apparatus)
 - Intervention programs (health education materials, audio-visual equipments, infrastructure building materials)
- c. Medical care service commodities:
Examples:
- Drugs and drug preparation agents, equipment and apparatus
 - Medical-surgical equipment and apparatus
 - Diagnostic equipment
 - Clinical laboratory agents, equipments, apparatus
- d. Multiple use commodities
- 4.4 Meaning, purpose, objectives and importance of logistic management
- 4.5 Meaning and processes of logistics-cycle
- 4.6 Logistics cycle
- a. Forecasting/estimating: meaning, need, basis, process, market analysis including demand-supply chain
 - b. Quantifying: meaning, need, basis, process
 - c. Procuring: meaning, need, objectives, principles, types (public and private) methods, process including bidding techniques, selection
 - d. Storing and inventory control: meaning, importance, principles, process, warehouse management
 - e. Distributing: meaning, demand, supply, mode, transport
 - f. Disposal and condemnation: meaning, need, value determination, mode
 - g. Recording: meaning, importance, types, auditing
 - h. Maintaining logistic management information system; meaning, objectives, frequency, mechanisms of filling, maintaining and forwarding various LMIS forms from various levels of health and medical services, uses of information
- 4.7 Desired organizational structure and human resources for effective logistic management system
- 4.8 Mechanisms of assuring quality of logistic management

Unit 5: Overview of public health service and medical care logistic management system (LMIS) in Nepal **6 hours**

- 5.1 Status of perception of public health and medical care logistic management
- 5.2 Objectives, strategies and major activities
- 5.3 Organizational structure and human resource provision for logistic management at federal, provincial and local level administration
- 5.4 LMIS process, including
 - a. Public health service and medical care commodities including essential drugs
 - b. Various tools/forms used and computer application system
 - c. Procurement, public procurement process and methods including tender and bidding, quotation, purchasing
 - d. Store/inventory management system: store management process, inventory control, recording process
 - e. Supply-chain management:
 - f. Auctioning and disposal process
 - g. Special attention to management of vaccines and allied commodities
 - h. Documentation: registration, types used, producing documents
- 5.5 Issues and opportunities of logistic management system

Unit 6: Human Resource (personnel) Management Information System ((HRMIS) **6 hours**

- 6.1 Meaning, purpose, objectives and importance of human resource (personnel) management information system
- 6.2 Inventory of employed human resources: public health, medical and allied medical, management support human resources
- 6.3 Inventory of distribution, transfer, promotion etc.
- 6.4 Various form used in human resource management information system
- 6.5 Issues and opportunities of logistic management system

Unit 7: Informatics in HSMIS **5 hours**

- 7.1 Meaning and importance of informatics and its use in public health and medical service management information system

- 7.2 Meaning and procedures of using Tele-health for public health service information management and telemedicine system for medical care service information management
- 7.3 Use of GIS and GPS facilities in public health and medical service and human resource management information system

5. Teaching and Learning Activities

Unit	Methods /media
1-7	Interactive lecture, Group discussion, Individual and group assignment on simulated cases followed by presentation, Interactive and participatory methods supported by audiovisual materials and equipment, case studies, HMIS, LMIS tools review

6. Evaluation Scheme

	<u>weightage</u>
1. External (university Examination)	80%
2. Internal Assessment	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading materials

1. Vati, Jogindra. *Principles and Practice of Nursing Management, and Administration*, New Delhi: JAYPEE2013.
2. Dahal, Achyut. *A Textbook of Health Management: Health management in Nepalese Perspective*, Kathmandu: Vidyarthi PustakBhandar, 2012.
3. Related publications of Ministry of Health, Department of health Services, Logistic management Division, Nepal
4. Government of Nepal, MoHP, HIMS tools, Integrated HMIS tools
5. Government of Nepal, DoHS, Pull system Training on Health Logistic Management, Trainer’s Notebook, 2015
6. Government of Nepal, DoHS, Pull system Training on Health Logistic Management, Reference Manual, 2015
7. Government of Nepal, DoHS, Pull system Training on Health Logistic Management, Participants handbook, 2015

8. Government of Nepal, MoHP, Logistic Management Information System (LMIS)
9. Government of Nepal, LMD, National Supply Chain Management Guideline of Medicine/Vaccine and Divices 2073 BS
10. Government of Nepal, MoHP, Health Sector Information System National Strategy, 2063 BS

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

**Public Health Statistics and Computer Application-II - Laboratory
Based Practice**

1. Preliminaries

Course Title	Public Health Statistics and Computer Application-II - Laboratory Based Practice	
Fourth Year	Seventh Semester	Course Code -BPH 407.1 PHSCA-II-LBP
Credit Hours:1Cr (32 hrs)	Full Mark: 50	Pass Mark: 30

2. Course description:

The course is to develop practical skills of the students regarding computer software applications. Students develop the knowledge and skill on software applications such SPSS, Epi-data, Endnote etc. which is used in the academic purpose. Students also acquire the practical skills for referencing style (Vancouver, APA, Harvard) using computer software. Similarly, students also develop skills on computerized sampling procedures; generating bivariate, multi-variate tables, scatter plot; correlation, regression and inferential statistical analysis; testing significance of differences, associations and correlations by using computer software.

3. Objectives of lab based practical

Upon the successful completion of the course, students will able to acquire skills about basic computer program and statistical functions, and other applications which are applied for academic performance.

4. Practical course contents

- Students will be divide in group (based on capacity of computer lab) and stay in computer at computer lab.
- Students develop practical skill on:-
 - Review of basic computer applications

- Introduction about various kinds of Statistical Software its application in public health
- SPSS in Computer and its use
- Epi-data in Computer,
- End note
- Computerized sampling procedures
- Generating bivariate, multi-variate tables, scatter plot
- Using computer software and technology for correlation, regression and inferential statistical analysis
- Computer testing: Testing significance of differences,, associations and correlations
- Different referencing style (Vancouver, APA, Harvard etc)

5. Evaluation scheme

Weightage (50 marks)

- a) Attendance, disciplines and performance
- b) Final Practical Examination

20Marks
30 Marks

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

Public Health Research - Proposal Writing

1. Preliminaries

Course Title	Public Health Research - Proposal Writing	
Fourth Year	Seventh Semester	Course Code: BPH 407.2 PHR-PW
Credit Hours: 1Cr (32 Hrs.)	Full Marks: 50	Pass Marks: 30

2. Course Description

The practical course in public health research is a course designed to develop practical skills of the students for prepare research proposal with scientific research design. Individual student will chose research topic and prepare a research proposal under the direct supervision of concern subject teacher and department of Public Health. Students will acquire practical skill on public health research proposal development.

3. Objectives

Upon the successful completion of the course, students will able to acquire skill about research methodology and research proposal development.

4. Procedure

a) Research proposal development

- Concerned teacher orient students for developing research proposal
- Initially students do literature review and each students identify at least three possible research topics and come up with statement of problem, objectives and rational.
- Individual student present the research topics to the public health faculty and chose appropriate one out of three for research proposal
- Then students do continue literature review, and start from background of study, forming objectives, research question,

generating hypothesis, writing problem statement, rational of the study, develop conceptual framework and decide methodology.

- The subject teacher and public health faculty guide the students through the process of research proposal writing.
- Student complete research proposal and present at college.
- The same proposal will be applied for the research practicum in the 8th semester.

5. Maintain process of practical

- Each students must submit proposal to the concerned teacher
- The proposal should be signed by concerned teacher and submit the same to the department of public health
- Students must bring the approved research proposal at the final examination

6. Evaluation criteria

Weightage (50 marks)

- | | |
|--|----------|
| a. Attendance, discipline, performance | 10 Marks |
| b. Research proposal presentation and submission | 10 Marks |
| c. Final Practical Examination | 30 Marks |

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of public Health

**Comprehensive Public Health Management Field Practicum –
Residential Field Based Practice**

1. Preliminaries

Course Title	Comprehensive Public Health Management Field Practicum – Residential Field Based Practice	
Fourth Year	Seventh Semester	Course Code -BPH 407.6 CPHMFP-RFBP
Credit Hours: 5Cr (160 hrs)	Full Mark: 100	Pass Mark: 60

2. Course descriptions

The residential field based practicum course provides the students an opportunity to develop skills, which make them competent public health professional with the ability to identify (Public Health, Medical and Managerial) problems and needs of Metropolitan, sub-Metropolitan, Municipality & or Rural Municipality. This is 30 days residential field stay based on different *Palika* (Metropolitan, Sub-Metropolitan, Municipality and or Rural Municipality. Combined mixed group of around ten students (maximum) in each group work for field practice. During this stay, students need to develop one comprehensive profile of concerned *Palika* incorporating all information taught in theoretical and practical aspects. This residential based practical could help to gain the evidence-based process of *Palika* health management and documentation process. Student need to analyze the health and managerial situation and selecting (by prioritization) one problem to conduct the mini action project. At last they need to develop three copies of combined binding (Hard copy) report.

3. Objectives

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

- Explore the problems (Public Health, Medical and Managerial) of Metropolitan, sub-Metropolitan, Municipality & or Rural Municipality including determinants of the problems by analyzing the recorded to prepare a health profile of the area.
- Assess existing or potential resources for addressing health problems, as well as constraints, which may hinder successful application of solutions.
- Understand organizational management capacity and management system of municipality/ rural municipality and leadership abilities for co-ordination, direction, training, motivation of health personnel, supervision and monitoring
- Critically analyze 3 year's health service data including trend analysis of concerned municipality.
- Prioritize health needs of the district/ municipality/ rural municipality and generate appropriate and feasible strategies for health, bearing in mind overall goals of Health and Basic Minimum Needs, available resources and feasibility of various solutions.
- Conduct a Mini Action Project (MAP) according to prioritize problems.
- Prepare five year plan on prioritized issues of concerned municipality
- Prepare a comprehensive Public Health Management Field Practicum Report (health profile).

4. Procedures

Orientation at college: The orientation course for PSD will be conducted in a group. The students will be divided into a team of around ten members (maximum). Before field movement, students need to be oriented in the following contents.

Unit 1: Orientation on Program Activities

- 2 hours

- Objective and rationale for field program activities
- Selection of district/municipality/rural municipality for fieldwork and logistics.
- Sharing objectives, action plan with the presence of representatives concerned organizations and different stakeholders
- Overview and networking of district level/municipality level organizations and their health related activities (public and private organizations, Municipality, health office, local CBOs, local NGOs/ local clubs, INGO, hospital and other health related organizations of the district which are directly and indirectly work on health related activities.
- Preparation of logistic and tools (for primary data)

Unit 2: Orientation on management profile of rural/ municipality -

3 hours

- Major health problems of the municipality/ rural municipality
- Health planning process and programs/ projects municipality/ rural municipality in level
- Health services organization structure.
- Overview the planning, organizing, staffing, co-ordination, directing, controlling, recording and reporting, budgeting, supervision, HMIS, LMIS, IPO system

Unit 3: Orientation on critical appraisal of health management system - 10 hrs

- Review the recording and reporting data of health services in details for the period of three years by using appropriate checklist
- Visit municipality/rural municipality level public and private organizations and collect health service related information
- Critically analyze the service data of three years including trend analysis
- Critically overview the status, strength and weaknesses of each of the management components mentioned above using SWOT format.
- Logical Framework Analysis (LFA)

- Prepare suggestions for alternative strategy or re-strengthening the management component of overcoming the weakness for better management.
- Epidemiological study on public health problems in a Palika
- Develop five year plan of public health issues based on findings (problem prioritization) using LFA

Unit 4: Mini Action Project (MAP) - 4 hours

- **Planning MAP:** Planning for MAP based on problem prioritization (based on feasible, affordable, action oriented, sustainable). Planning of MAP will be based on knowledge and skills learned in various disciplines of health sciences (epidemiology, bio-statistics, health education, nutrition, school health, health & environment, family planning, MCH, health management system, health care waste management system, recording and reporting system, etc).
- **Implementing MAP:** Implementation of MAP using locally available resources (efficient uses of resources)
- **Evaluation MAP:** Evaluation of MAP- by using early prepared evaluation criteria

Unit 5: Final presentation at community - 1 hour

- Organize a seminar (final presentation) in front of all concerned stakeholders and organization (by efficient uses of resources)
- Thanks giving with appreciation to all stakeholders and concerned organizations

Unit 6: Preparation health management profile report, college presentation - 4 hrs

- Prepare health service management profile report (Three hard copies) with the close guidance of subject teacher and or field coordinator (**reporting format**). Students need to prepare draft report during field stay and make final draft after college presentation
- Preparation for college presentation with the guidance of subject teacher/ field coordinator

- College presentation by each group (all members) and evaluation will be done by internal and external evaluator and based on evaluation criteria
- All reports must be signed by subject teacher or field coordinator and submit to the department of Public Health

Note: After completion of this orientation course students depart for 30 days residential field practicum

5. Evaluation criteria (individual evaluation):

SN	Description	Weightage
1.	Student's attendance and team work, preparation of action plan	5%
2.	Public health and medical services system analysis using IPO Model	5%
3.	Trend analysis using three year data from HMIS	5%
4.	Epidemiological study of any one non/communicable disease	5%
5.	Critical appraisal of public health program (any one) using SWOT	5%
6.	MAP: Planning, Implanting and evaluation	10%
7	Prioritization and development of five year plan using LFA	10%
8.	Presentation among major stakeholders at field setting	5%
9.	College presentation, individual oral defense (external evaluation)	30%
10.	Health service management profile report (external evaluation)	20%
	Total	100%

Fourth Year Eighth Semester

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Education and Training of Human Resource	
Fourth Year	Eight Semester	Course code: BPH 408.1 ETHR
Credit Hours: 3Cr (48hrs)	Full Mark: 100	Pass Mark: 50

2. Course Description

This course offers the students opportunity for conceptual understanding of human resource for health and human resource development through education and training. This course is designed with the basic concepts of education and training for development of human resource for public health and medical care. The students will develop specific skills of education and training need assessment, planning for education and training of human resources, designing training course, conduct training and evaluate the training..

3. Course Objectives

At the end of the course students are able to:

1. Describe the basic concepts of human resource, human resource development and human resource for health
2. Describe the basic concept of education and training of human resource for public health.
3. Describe the process and status of human resource development (including education and training) in Nepalese public health and medical fields.
4. Carry out training need assessment, develop training curriculum, conduct training and evaluates the training programs

4. Course contents

Unit 1: Introduction to human resource for health (HRH) 2 hours

- 1.1 Definition of human resources and human resource for health
- 1.2 Definition and scope of human resource for public health

- 1.3 Definition and scope of human resource for medical care
- 1.4 Meaning of human resource development
- 1.5 Meaning of human resource management

Unit 2: Human resource development in public health and medical care **4 hours**

- 2.1 Education and training for human resource development
 - a. Definition and features of education of human resources
 - b. Definition and features of training of human resources
 - c. Overview of need for planning, production and evaluation of education and training
- 2.2 Categories of human resources for public health such as public health officer, public health specialist (public health educator, environmental health officer, public health epidemiologist, public health manager)
- 2.3 Categories of human resources for medical and allied medical care such as medical officer, clinical nurse, clinical pharmacologist, clinical laboratory specialist, dentist, clinical therapist

Unit 3: Planning for education and training of human resources **8 hours**

- 3.1 Definition of planning of education and training of human resources
- 3.2 Pre-requisites for human resource planning
 - Statistical information supporting the need for HRD
 - Advocacy for human resource development need
 - Enabling legislation
 - Leadership readiness
 - Administrative capacity
- 3.3 Steps of planning for education and training of human resources
 - a. Analysis of human resource development need on the basis of:
 - Demographic trend
 - Epidemiological trend
 - Socio- economic trends
 - Development of public health and medical care technologies
 - b. Estimation of human resource requirement

- Meaning of estimation of human resource requirement
- Methods of estimating human resource requirement
 - o Public health and medical service needs focused methods
 - o Service target/Panel expert method
 - o Market oriented - economic demand method
 - o Population provider ratio method
 - o Projection method
- c. Preparation of production plan
- d. Overview of main features of current human resource for health plan of Nepal

Unit 4: Production - Education of human resources for public health and medical care from university, colleges and CTEVT in Nepal **4 hours**

- 4.1 Mission, goal, ,types of programs, educational organizations/institutions, production capacity
- 4.2 Education on public health (under baccalaureate, baccalaureate and post baccalaureate)
- 4.3 Medical and allied medical education (baccalaureate and post baccalaureate)

Unit 5: Production -Training of human resources for public health and medical care **28 hours**

- 5.1 Concept of training of HR for public health and medical care
- 5.2 Overview of training: Definition, Characteristics and process of training
- 5.3 Types of training
 - a. Basic training
 - b. Advanced training
 - c. Pre-service training
 - d. In-service training
 - e. Refresher training
 - f. Specialized training
 - g. Apprenticeship training
 - h. Training of Trainers (TOT)
 - i. Master training of Trainers (MTOT)
- 5.4 Process of training
 - a. Determining training needs:

- Training Need Assessment (TNA): Definition, context and scope, sources of training needs, methods of training needs assessment
- b. Designing the training: Training curriculum and manual development
 - Meaning, importance and structure of training curriculum and manual
 - Set training purpose and process
 - Plan for appropriate training methods and media
 - Determining training resources
 - Developing content and session plan
 - Developing training materials
 - Designing training sessions
 - Designing training schedule
 - Designing training evaluation plan: Setting intended standard
- c. Implementation of training program
 - Before the training: Confirming training participant venue, logistics, training materials, resource person, training schedule, training evaluation tools and techniques etc.
 - During the training conduction of training according to the pre set schedule, monitoring and evaluation of training
 - After the training: training report writing, communicating the training report
- d. Evaluation of training program
 - Concept of training program evaluation
 - Level of training evaluation: Pre training (pre-test), during the training evaluation, end level training evaluation (post-test) and on the job evaluation (training impact on the job)
 - Kirkpatrick's level of training evaluation
 - o Four levels of success: Reaction, Gain in knowledge and skill, Performance and Organizational results (training impact on the organizational level)
 - Criteria and Methods of evaluating training effectiveness : Appraisal of pre-post performance, test, training and control group experimental method, trainee survey

- Process of training evaluation: Measuring actual outcome, finding deviations and correcting actions
- Critical review of a sample training program and manual of GO or INGO/NGO
- e. Recording training procedures and writing a training report
 - Concept and purpose of writing training report
 - Components of training report
 - Report dissemination

Unit 6: Public health human resource training in Nepal 2 hours

- 6.1 Overview, objective, function and activities of National Health Training Centre (NHTC)
- 6.2 Overview, objective, function and activities of Province Health Training Centre
- 6.3 Overview, objective, function and activities of Local Level Health Training
- 6.4 Overview of INGO/NGOs involved in training of public health workforce and medical and allied medical workforce

5. Teaching-learning activities

Unit	Method/media
1-6	Interactive lecture, and group discussion, individual and group assignment, document review followed by presentation, practical problem-solving sessions, role play, developing and conducting a prototype training program on public health actions and intervention

6. Evaluation scheme

	<u>Weightage</u>
1. External (University examination)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading materials

1. Byars, LI Rue LW Rue "Human Resource Management" Boston: Richard D. Irwin, IMG, 1991.
2. **Leiyu Shi “Managing Human Resources in Health Care Organizations”**
3. Walter J Flynn, Robert L Mathis, John H Jackson “Healthcare Human Resource Management” 2nd edition
4. Agrawal, G. R. (2010). Foundation of Human Resource Management in Nepal, Raj Offset Press, Kathmandu: Nepal.
5. Pradhan, H.B. (2014). Textbook of Health Education and Promotion (Philosophy, Principles and Methods), 5th ed. Hisi Offset Printers, Kathmandu: Nepal.
6. Training Institute for Training Instruction (TITI), (2012). Training Manual, Training of Trainers for Master Trainers. Author.
7. Training Institute for Training Instruction (TITI), Training Manual, Training Course Design. Author..
8. Wearther, WB Dawis K "Personnel Management and Human Resources" New York: MC Graw Hill, 1985.
9. WHO, Development of Educational Programmes for Health Personnels, Geneva. 1977.
10. Recent Strategic Policy/Plan for Human Resource for Health
11. Training manuals published by Ministry of Health and INGO/NGOs

Purbanchal University
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1. Preliminaries

Course title	Public Health Professional and Entrepreneurship	
Fourth Year	Eight Semester	Course Code: BPH 408.2 PHPE
Credit Hours: 3Cr (48 hrs)	Full marks: 100	Pass marks: 50

2. Course Description

Public health profession is an ever rising profession aiming at preservation and promotion of health of the healthy people. It is imperative to have public health workforce who understand the profession in-depth including its practice opportunities and ways to carry out professional responsibilities without breaching the professional ethics. Now-a-days public health practice opportunity is not limited to government and non-government organizations sectors only. There are opportunities for practice in various settings such as private sector market, factories, and entertainment centers. Entrepreneurship in this field is at dawn and practitioners have to look from the other window as well to serve the people by engaging in this dawning entrepreneurship for the cause of helping them to attain optimal level of health. Therefore, this course is designed to help students understand the concept and characteristics of *pakka* (genuine) public health professionals and the ethics that they shall comply with during their professional practices. Moreover, this course helps the students to conceive a new dimension of practice i.e. public health entrepreneurship and the opportunities where the idea of entrepreneurship can be applied to lead an independent practice as a public health professional. Course contents include meaning of pakka (genuine) public health professionals, types of professionals, concept of public health professional ethics, and concept, scope and methods of public health entrepreneurships.

2. Course objectives

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

1. Explain and define public health professional and entrepreneurship and their need at present situation
2. Explain the professional preparation of public health workforce
3. Explain public health professional ethics.
4. List and describe public health domains (thematic, core actions, and interventions) related scope for public health entrepreneurship.
5. Explain the methodology of starting entrepreneurship in public health
6. Explain the economic value and contribution of public health entrepreneurship to help people achieve the state of optimum health
7. Discuss on the role and responsibility of professional organization and council

3. Course Contents

Part 1- Public Health Profession Practice and Ethics

Unit 1: Introduction to public health profession 10 hours

- 1.1 Definition of public health as profession and professionals/practitioners
- 1.2 Criteria for becoming a *pakka* (genuine) public health professional
 - a. Professional education in public health at least at bachelor level
 - b. Public health position
 - c. Public health position related job responsibility
 - d. Adherence to professional discipline (Respect) and commitment
- 1.3 Distinct characteristics of public health professionals from medical care practitioners
- 1.4 Highlights on standards for public health practitioners
- 1.5 Major public health professions and overall roles and corresponding functions of public health professionals:
 - a. Public health generalists

- b. Public health specialists
- 1.6 Meaning of categories of public health practitioners: professional, para-professional and non-professional workers and volunteers
- 1.7 Overview of situation of public health profession in Nepal

Unit 2: Brief overview of preparation of public health workforce

6 hours

- 2.1 Highlights of workforce production agencies: governmental and non-governmental universities and colleges
- 2.2 Types and levels of public health education:
 - a. Under graduate, graduate, post-graduate
 - b. General and specialization education
- 2.3 Non-formal training in public health
- 2.4 Overview of public health education in Nepal

Unit 3: Public health workforce and practice opportunities

6 hours

- 3.1 Public health workforce: definition
- 3.2 Overview of public health practice opportunities in various health, medical and related sectors
 - a. Public (government) sector
 - b. Non-government sector
 - c. Entrepreneurships (details in Part II)
- 3.3 Professional development and career opportunities
 - a. Concept and importance of professional development
 - b. Professional development skills
 - c. Concept and importance of career development
 - d. Difference between professional development and carrier opportunities

Unit 4: Public health professional ethics

10 hours

- 4.1 Concept, principles and importance of public health ethics
- 4.2 Distinction between public health ethics, rules, regulation and law
- 4.3 Meaning of Good, Virtue Ethics, Situation Ethics, Care Ethics, Moral worth
- 4.4 Ethic related to public health professionalism, practice, beneficiaries and coworkers

- a. Ethics related to professionalism
(Plagiarism, Attachment, registration with professional organization, professional commitment)
 - b. Ethics related to practice
(Truth-Telling, Communication ethics, Personal Productivity Use of evidence, Quality service)
 - c. Ethics related to beneficiaries (individuals, community)
(Consent, Confidentiality, respect, equality, justice, Conflicts of interest, rights, Individual liberty and community benefit, beneficiaries' health)
 - d. Ethics related to coworkers
- 4.5 Advantages of adherence to the ethics
- 4.6 Examples of unethical public health practices and their consequences
- 4.7 Ethics related to registration in professional organization and council.
- 4.8 Code of ethics for public health and roles of Nepal Health Professional Council, NHRC, NEPHA

Part II Public Health Entrepreneurship

Unit 5: Introduction to public health entrepreneurship (PHE)

6 hours

- 5.1 Meaning and definitions of public health entrepreneurship
- 5.2 Importance of entrepreneurship for establishing economic value to public health
- 5.3 Understanding public health entrepreneurship as novel venture of personal investment in public health domains (ideas and products of public health themes, public health core actions and public health interventions) beyond service in government and NGO
- 5.4 Advocacy and facilitator roles of public health practitioners regarding personal investment in public health entrepreneurship
- 5.5 Health-economic investment-wellbeing paradigm of public health entrepreneurship

Unit 6: Scope of public health entrepreneurship

6 hours

- 6.1 Meaning of scope of public health entrepreneurship: investment, production, marketing, sale and benefit
- 6.2 Scope of public health entrepreneurship: products and services
 - a. Scope by public health theme cum core actions related products entrepreneurship
 - b. Scope by public health intervention related products entrepreneurship
 - c. Scope by public health service related entrepreneurship
 - d. Scope by healthy settings entrepreneurship
- 6.3 Public health theme-cum-core actions related **products** entrepreneurship
 - a. Health promotional products (Healthy foods, nutritional supplements, sanitary pads, water and air purifiers, sanitary latrine set, contraceptives, etc.)
 - b. Risk factors, injuries, and disease prevention products (nicotine supplements, anti-obesity foods, physical exercise equipments and gears, non-slippery foot wears, masks, treated mosquito nets, repellants, factory-work safety gears, anti-septic agents including soaps, temperature friendly cloths, first-aid kits etc.)
 - c. Health protective products: (vaccines, immunity enhancing bio-chemical agents)
 - d. Epidemics control products (masks, gloves, water purifiers, fumigators,
 - e. Early detection products (self screening equipment such as thermometer, glucometer) eye-charts, tuning -fork, weighing machine etc.
- 6.4 Meaning and scope of public health **service** entrepreneurship
 - a. Establishing promotional services in health, medical and life insurance companies
 - b. Establishment of health insurance (insurance of healthy people but not the medical insurance to cover treatment costs) companies
 - c. Establishment of life style change centers: such as running fitness centers, diabetes and heart disease risk reduction centers

- d. Running public health service centers and consultancy including research firms
- e. Running public health education media firms (production, sales, airing, advertising etc)
- f. Running public health training and education center/institutes

Unit 7: Methods of public health product and service entrepreneurship-4 hours

- 7.1 Logistic estimation and market analysis of demand and supply situation of public health product and service
- 7.2 Proactive cost-benefit and investment-return analysis of public health entrepreneurship
- 7.3 Media advocacy for creation of market-establishing value to the beneficiaries
- 7.4 Social marketing approach to public health ideas, services and products business
- 7.5 Introduction to public health product sale departmental store and service firms
- 7.6 Preparation of a sample entrepreneurship project (at PSD)

5. Teaching-learning activities

	Method/media
1-7	Interactive lecture, group discussion, Individual and group assignment on preparation of a mini-entrepreneurship project followed by presentation Interactive and participatory methods supported by audiovisual materials and equipment, document review, entrepreneurship business firms visits

6. Evaluation scheme

	<u>weightage</u>
1. External (University examination)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading materials

1. Erich Textbook of Healthcare Ethics; University of California, Medicine, Sacramento, California
2. Macleod J. "Davidson's principles and practice of medicine". ELBS.
3. Code of conduct of NHPC
4. Ethical guideline, Nepal health research council
5. Nepal Health professional Council. Public health code of ethics
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10. *Public Health Entrepreneurs: Training the Next Generation of Public Health Innovators:*
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4187288/>
11. Front. Public Health, 24 April 2019. *Public Health Entrepreneurship: A Novel Path for Training Future Public Health Professionals:* <https://www.frontiersin.org/articles/10.3389/fpubh.2019.00089/>

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

1. Preliminaries

Course Title	Public Health Project Management	
Fourth Year	Eight Semester	Course code: BPH 408.3 PHPM
Credit Hours: 3Cr (48hrs)	Full Mark: 100	Pass Mark: 50

2. Course Description

Public health practitioners are often challenged with formulating and executing health projects besides their engagement in regular programs. Such phenomena have become common where reoccurrence of verticality of health programs particularly driven by the availability of short term and issue specific resources. Thus, this course is design to provide students with primary knowledge and skill of managing including designing, executing and assessing public health projects. Course consists of concept and cycle of project management.

3. Course Objectives

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

1. Define public health project and public health program.
2. Differentiate public health project from medical care project.
3. Define and explain the process of public health project management.
4. Understand process of initiating, planning, executing, controlling and closing the project.
5. Explain the roles of the project manager, the project team member and their role in risk management.
6. Apply knowledge and skills to design and manage the project scope, project time and work flow, project expenses, project resources, project quality, project human resource management, project communication (reports, meetings, correspondence, etc.), handling project changes and project risks.

7. Apply the knowledge and skills of project planning tools and techniques to develop their own project for the requirement of practical skill development course.
8. Explain the concept, process and types of project evaluation.

4. Course Content

Unit 1: Introduction to public health project management 4 hours

- 1.1. Need for studying public health project management by public health practitioners
- 1.2. Concept of public health project: meaning, definition, characteristics, objectives and scope
- 1.3. Types of public health projects (combining the thematic domain, core action domain and intervention domain of public health)
- 1.4. Distinction between public health project and medical project
- 1.5. Distinction between regular public health program and time bound public health project
- 1.6. Highlights of public health project life cycle: Conceptualization, analysis, proposal formulation, agreement, planning, execution or implementation, evaluation, handover, review, feedback
- 1.7. The project manager: Role and responsibilities and qualities of a successful project manager
- 1.8. Concept of Non Governmental Organization (NGO), International NGO (INGO)

Unit 2: Conceptualization of public health project 2 hours

- 2.1 Generation of various project idea: Need, intervention and expected result
- 2.2 Sources of project idea:
 - a. Projects idea may come from public health theme and/or problem/issue to address, new policy, plan and/or technology, change in governance/political structure, national and international treaties, disasters, unrest, unmet demand/need, supply based, donor based
 - b. Project idea may be innovative or unique based on individual's area of interest to promote public health
 - c. Project idea may come from literature review
- 2.3 Some examples of public health project:

- a. Wellness, health promotion, and disease prevention projects
- b. Healthy food eating project (can be applied in various settings)
- c. Restaurant healthy options program
- d. Healthy product production and marketing project
- e. Health promoting school project
- f. Healthy life choices for teens (to prevent Non-Communicable Diseases Risk factor prevention)
- g. Physical fitness projects
- h. Community based health education projects
- i. Public health research projects

Unit 3: Public health project formulation 10 hours

- 3.1 Identification of project: identifying what has triggered among the ideas
- 3.2 Analysis or need assessment: Situation analysis about the idea: Concept of need assessment, importance, process, methods and tools as appropriate
 - a. Problem tree analysis/ cause effect diagram
 - b. Beneficiary consultation through survey
 - c. Stakeholder analysis
- 3.3 Project proposal development and justification
 - Concept of project proposal: meaning, definition, objectives, components and layout (some examples of proposal format)
 - Types of project proposal
 - Technical proposal
 - Financial proposal
- 3.4 Project proposal appraisal: meaning, criteria and processing project appraisal
 - Project proposal appraisal criteria: Relevance, feasibility, economic viability, sustainability, stakeholder engagement and impact
- 3.5 Process of getting project proposal approval

Unit 4: Public health project planning and agreement on plan 10 hours

- 4.1 Concept of public health project planning: meaning of planning, definition, importance, objectives

- 4.2 Approaches of project planning:
 - a. Top down planning
 - b. Bottom up planning
 - c. Participatory planning
- 4.3 Steps of project planning
 - a. Understand project goals/objectives
 - b. Identify key project stages
 - c. Prepare work breakdown structure (WBS)/GANNT Chart
 - d. Determine logical sequence of activities
 - e. Estimate time and resource requirements
 - f. Allocate responsibilities for each activity
 - g. Prepare logical framework of the project
- 4.4 Tools and techniques of public health project planning
 - a. Objective tree analysis based on problem tree analysis conducted during need assessment
 - b. The logical framework analysis (LFA)
- 4.5 Development of project implementation plan (PIP)
- 4.6 Development of monitoring and evaluation plan (matrix) through the following tools and techniques
 - a. Strength, Weakness, Opportunities and Threats (SWOT) analysis of project outputs/outcomes
 - b. Political, Economic, Social, Technological, Legal, and Environmental (PESTLE) analysis of project output/outcomes
- 4.7 Communicating project plans to concerned individual and agencies for building agreement

Unit 5: Public health project Implementation/execution 8 hours

- 5.1 Project implementation phases preparation
 - 5.1.1 Before implementation
 - 5.1.2 Executing the plan (Implementation)
 - 5.1.3 After implementation
- 5.2 Concept of monitoring: meaning, definition, objectives, characteristics, scope
 - a. Objective and results monitoring
 - b. Performance/context monitoring through records and reporting
 - c. Performance monitoring through field visit

- d. Differentiate between monitoring, evaluation and audit
- e. Conducting review meetings
- 5.3 Project report writing and reporting
 - a. Data recording, management and sharing
 - b. Reporting technical activity, and financial reporting and sharing
- 5.4 Project control
 - a. Human resource control
 - b. Financial control
 - c. Operation control
 - d. Financial audit

Unit 6: Public health project evaluation 5 hours

- 6.1 Concept of project evaluation: meaning, definition, objectives, scope
- 6.2 Phases of project evaluation
 - a. Mid term evaluation (Formative evaluation)
 - b. Endline/Final evaluation (Summative evaluation)
- 6.3 Types of project evaluation
 - a. Internal evaluation
 - b. External evaluation
 - Expert evaluation
 - Community/Social/beneficiary evaluation
 - a. System evaluation: Input - Process - Output -Outcome - Impact (IPO-OI) analysis
- 6.4 Key consideration during project evaluation
 - a. Monitoring and evaluation tools and reports
 - b. Projects records and reports
 - c. Review meeting minutes
 - d. Case study, focus group discussions, key informant interview/s
 - e. Beneficiary satisfaction survey

Unit 7: Public health project completion and closure, handover, review and feedback 5 hours

- 7.1 Concept of project closure: meaning, definition, characteristics, and objectives
- 7.2 Modes and process of project closure
 - a. Continuation after previous phase (renewal)

- b. Starting new phase maintaining the original mission of the project
 - c. Project handover
 - d. Termination with dismantling the project team
- 7.3 Distinction between project closure and project termination
- 7.4 Project completion report: definition, purpose, components and sharing
- 7.5 Project result review and feedback

Unit 8: Project management team 4 hours

- 8.1 Project management team formulation: Key considerations
- a. Understanding project scope and need for team members
 - b. Understanding project environment: internal, external, task environment
 - c. Identifying project key personnel and their Terms of reference (TOR)
 - d. Identifying barriers and plan to mitigate/manage
 - e. Development of responsibility matrix
 - f. Team building process
 - g. Managing personalities in team

5. Teaching learning methods

Method	
1-8	Interactive lecture, group discussion, individual and group assignment on simulated cases followed by presentation, interactive and participatory methods supported by audiovisual materials and equipment, organization visits and collects expert's ideas, proposal writing,

6. Evaluation scheme	weightage
1. External (University examination)	80%
2. Internal	20%
a. Written examination (two examinations)	50%
b. Class attendance	25%
c. Class presentation and home assignment	25%

Reading materials

1. Govinda Ram Agrawal, Project management, recent edition
2. S. Choudhary,(2003), Project management, Tata McGraw-Hill publishing company limited
3. Adams, J. R., Principles of Project Management. 1996. Project Management Institute Publications, Sylva, NC. ISBN 1-880410-30-3
4. Harvey Maylor, 1996, Project management, Macmillan India. ltd. (recent edition)
5. Prem R. Pant. (2003), Principles of Management, Buddha Academic Enterprises Pvt. Ltd.
6. Project Management (2003), Penguin group (USA)
7. Krishna Chandra (2001), Project Management, Sarup and Sons
8. Frame, J. Davidson, Managing Projects in Organizations: How to make the best use of time, techniques, and people ,3rd edition, Jossey-Bass, 2003, ISBN 0-787-96831-5
9. Kerzner, Harold, Project Management: A Systems Approach to Planning, Scheduling, and Controlling , 10th edition, Wiley, 2009, ISBN 0-470-27870-6
10. Joseph Heagney 2016. *Fundamental of Project Management*, 5th edition, American Management of Association:<https://vuthedudotorg.files.wordpress.com/2015/10/fundamentals-of-project-management-0814437362.pdf>

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

**Education and Training of Human Resource - Training
Program Conduction**

1. Preliminaries

Course Title	Education and Training of Human Resource - Training Program Conduction	
Fourth Year	Eight Semester	Course code: BPH 408.1 ETHR-TPC
Credit Hours: 1Cr (32 hrs)	Full Mark: 50	Pass Mark: 30

2. Course descriptions

The practical course is for the development of practical skill of students for planning and conducting training for human resources for public health. Students discuss in a group, analyze the situation of human resources in public health in the context of Nepal. They assess current situation, gaps and challenges of HRH development, recruitment and retention. Students need to provide necessary education and training as well as become a capable resource by developing specific skills in the process of designing training schedules and implementation and evaluation. All these activities will be conducted under the guidance of course facilitator.

3. Objectives

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

- Assess the situation of human resource for public health, current gaps and develop training plan with focusing the gaps
- Plan and conduct training for developing HR for public health with applying the theoretical concept
- Evaluate the effectiveness of the training

4. Procedure

Designing, planning and conducting training for public health HR

a) Identify training needs: The practical course will be conducted in a group. The students will be divided into groups consisting of 9-10 members in a group. Each group will be encouraged to discuss the different areas of public health workforce, critically assess the HRD situation in a public health organization and decided the training topic (area) for 2 days training to junior students. The concerned teacher facilitate the students to assess the training need areas/issues

b) Planning and designing two days training: Student plan two days training schedules in specific issues for HR development. Students set goal and objectives of training, decide specific contents/sessions, facilitator, methods, media, number of participants, lesson plan for each session etc. Students develop appropriate training materials for each session. The concerned teacher guide the students for planning and designing the training appropriately. The teacher oversees the training plan and provides necessary feedback.

c) Conducting training and evaluation: The same group members will then accordingly conduct training sessions at college to junior students. For each session of training, facilitator must prepare lesson plan with evaluation scheme. The effectiveness of the training needs to be evaluated. The concerned teacher guides the students for effective conducting of training.

5. Maintain process of practical work

- Each group must write and submit a training report to public health faculty
- Report should be signed by respective teacher
- All students must bring report in the final practical examination
- Final examination is based on practical work

6. Evaluation scheme

weightage (50 marks)

- | | |
|---|----------|
| a. Attendance, discipline and performance | 15 marks |
| b. Training report | 10 marks |
| c. Final Evaluation | 25 marks |

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

Public Health Project Management - Proposal Writing

1. Preliminaries

Course Title	Public Health Project Management - Proposal Writing	
Fourth Year	Eight Semester	Course code: BPH 408.3 PHPM-PW
Credit Hours: 1Cr (32hrs)	Full Mark: 50	Pass Mark: 30

2. Course descriptions

This course is for the development of practical skill of students for developing project in any public health issues. While developing the project students links the entrepreneurship aspect of the project. Before developing the project students can visit entrepreneurship business firms for exploring the ideas of operating the business firms, its challenges, constraints and most possible areas for entrepreneurship project. Similarly, students can visit to NGOs/INGOS for getting ideas that what they work, how they are managing and sustaining the project and also discuss the possible are of project development. Students discuss in a group, indentify the issues of project development in the context of public health of Nepal. They assess current situation of public health intervention need, feasibility of project implementation, impact of designed project etc. Particularly, students focus to develop entrepreneurship project. Students work in a small group under the guidance of course facilitator.

3. Objectives: after completion of the course students able to:

- Assess the issues for project entrepreneurship project development
- Design project (background, objectives, rational, strategies, activities, action plan, budgeting, types and number of human recourse need, process of implementation, impact etc)

- Design monitoring and evaluation framework of the designed project- Logical Framework Approach

4. Procedure

Public health project development

a) Project needs identification

- Students work in a group of 4-5 people
- Students assess the issues/topic for project development. Each team reviews the documents, visits different organizations and gets ideas from experts regarding project needs, reviews different public health related projects implemented in the country and decides the project development areas/issues.
- While developing the project, students make **one day concurrent field visit** to entrepreneurship business firms/health service providing NGOs/INGOs or any private forms. Students interact with personnel and get ideas of operating the project or business firms, challenges, constraints, and possible areas for entrepreneurship project.
- Subject teacher guides the students throughout the process of need identification.

b) Project development

- Individual team develops a comprehensive project proposal (entrepreneurship project) on the decided issues. The project proposal includes the goal, objectives, strategies, activities, implementation plan, monitoring and evaluation framework, indicators, human resources, fund investments, expected outcome, community resource utilization plan, duration of project, etc. Students use LFA for project planning.
- Each team of students makes presentation of project proposal at college.

5. Maintain process of practical work

- Each group must submit a project proposal to the public health department
- Project proposal should be signed by the respective teacher
- All students must bring project proposal in the final practical examination
- Final examination is based on practical work of project proposal

6. Evaluation scheme**weightage (50 marks)**

- | | |
|---|----------|
| a. Attendance, discipline and performance | 10 marks |
| b. Project proposal evaluation by faculty | 10 marks |
| c. Final Evaluation (viva) | 30 marks |

Purbanchal University
Faculty of Medical and Allied Sciences
Bachelor of Public Health

Public Health Research Practicum

1. Preliminaries

Course Title	Public Health Research Practicum	
Fourth Year	Eight Semester	Course code: BPH 408.4 PHRP
Credit Hours: 6Cr (192hrs)	Full Mark: 100	Pass Mark: 60

2. Course Description

Public health practitioners are often challenged with formulating and executing health researches the results of which can be used in decision-making aspects of planning, implementing and evaluating public health intervention programs. Therefore they need to have practical experiences of conducting research including field research. This course is designed to provide the students with practical experiences in conducting research and preparation of the research report. The nature of the course is entirely practical with minimum coaching in the classroom settings.

3. Course Objectives

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

1. Judge the features of a good research proposal
2. Conduct pilot testing of research tools
3. Prepare pre-field research logistics
4. Lead research activities in the field including quality data/information collection
5. Conduct data/information processing and analysis activities
6. Write research report following basic and standard format of a good report

4. Course Content for orientation

Unit 1: Pre-practicum field research skills

4 hours

- 1.9. Review of research proposal prepared and finalized in the previous semester

- 1.10. Develop and performing pilot testing of data/information collection instruments and their finalization
- 1.11. Conducting training/orientation sessions of the field researchers (data/information collectors, supervisors) if desired
- 1.12. Collection/preparation of logistics required for field research
- 1.13. Soliciting formal approval from the research guide or supervisor

Unit 2: Work in the field **2 hours**

- 2.4 Travel to the field and logistic arrangement
- 2.5 Field sampling of area, population, study unit (if not sampling in not done previously)
- 2.6 Starting and ending field data/information collection, intervention (if interventional research) including data/information quality checking in the field, compiling

Unit 3: Post field research work **10 hours**

- 3.6 Briefing the summary of field research work to the research guide/supervisor
- 3.7 Soliciting formal approval from the research guide/supervisor for data/information process
- 3.8 Performing data/information processing, analysis and outputs
- 3.9 Discussing with the research guide/supervisor on the data/information processing and analysis outputs before starting report writing
- 3.10 Writing research report following the prescribed report and referencing format
- 3.11 Consulting currently the research guide/supervisor during report writing phase
- 3.12 Preparing final research report

Unit 4: Research report presentation, defense and submission **10 hours**

- 4.8 Presenting research report among the members of institutional thesis committee in the formal session (faculty members and other students may attend the session)
- 4.9 Incorporation of major suggestions provided by the thesis committee members
- 4.10 Consulting the research guide/supervisor

- 4.11 Presenting and defending the research among the external examiners as part of university examination
- 4.12 Submitting the formal research report to the institute with approval from research guide/supervisor, head of the thesis committee, head of the department and head of the institute

5. Teaching learning methods

Method	
1-4	Short lecture and practical classes on pilot testing, field research logistics, field data/information collection procedures, data/information processes, report writing styles and formats, self directed study, consultative sessions with the concerned research guide/supervisor, field visit and work, Individual report writing, Institutional presentation

6. Evaluation criteria – FM 100

SN	Description	Weightage
1	Review and final submission of research proposal	5%
2	Data collected forms (hard copy) and entry file (software copy)	10%
3	Data analysis and first draft report submission	10%
4	Findings presentation at department (internal pre-defense)	15%
5	Oral defense examination (external)	30%
6	Final research report submission at least three hard copy along with soft copy(external and internal evaluator)	30%(15%+15%)
	Total	100%

Reading materials

1. Nepal Health Research Council, **Health Research Ethics Training Manual**. Kathmandu: NHRC, 2014
2. Ramachandran, P. **Survey Research in Public Health**, New Delhi: PHI Learning Private Limited, 2012.
3. Guest, Greg, Emily E. Nancy(Edrs.) **Public Health Research Methods**, USA: Sage Publication Inc. 2015.

Annex -1

Formatting to Every Report Writing

1. Font size
 - a. Cover Page Title: 14-16 Bold, All Capital Letters
 - b. Chapter title: 14 Bold, All Capital Letters
 - c. Title: 12 Bold, Initial letter capital
 - d. Sub-title- 12 Bold, Initial letter capital
 - e. Text: 12
 - f. Font: Times New Roman
2. Lines spacing-1.5
3. References- Vancouver or Harvard or APA
4. Page set up- Margins: 1.5" on left, 1.3" on top and 1"- on right and bottom
5. Preliminary pages the number will be in capital roman letter should be hide and unhide from acknowledgement page
6. Start numeric page number from introduction

Annex-2

Guideline for term paper report

a. Preliminary Pages

- Cover page
- Approval letter
- Acknowledgement
- Table of content
- List of tables
- List of figures
- List of abbreviation/acronyms
- Abstract

b. Main body

1. Introduction
2. Objectives of the Study
3. Methodology
4. Findings and Discussion
5. Conclusion
6. Recommendations
7. References
8. Appendix

Annex-3

Community Health Diagnosis and Intervention (CHDI) Report

Preliminary page

- Cover page
- Name of group members
- Approval sheet
- Acknowledgements
- Table of contents
- List of tables
- List of figures
- List of abbreviations
- Executive summery

Chapter 1: Introduction

- 1.1 Background of CHD and study area (in detail)
- 1.2 Map of the study area
- 1.3 Rationale of the study
- 1.4 Objectives of the study
- 1.5 Activities plan

Chapter 2: Methodology

- 2.1 Study design
- 2.2 Study area
- 2.3 Study duration
- 2.4 Sample size
- 2.5 Sampling technique
- 2.6 Sources of data
- 2.7 Tools and techniques of data collection
- 2.8 Data processing and analysis
- 2.9 Validity and reliability
- 2.10 Ethical consideration
- 2.11 Limitations of the study

Chapter 3: Findings

- 3.1 Social Mapping and mobility mapping

- 3.2 Social and Demographic Characteristics
- 3.3 Environmental Health and Hygiene
- 3.4 Maternal health
- 3.5 Child Health
- 3.6 Adolescent Health
- 3.7 Family Planning
- 3.8 Nutrition (anthropometric measurement, BMI)
- 3.9 Knowledge, Attitude and Behavior (KAB) on diseases etc.
- 3.10 Health of the elderly people
- 3.11 Gender and Health

Chapter 4: Finding sharing, need prioritization, Public health Intervention

- 4.1 First community Presentation
- 4.2 Need prioritization
- 4.3 Public Health Intervention Design (detailed action plan including goal and objectives)
- 4.4 Implementation (detailed with activities)
- 4.5 Evaluation (detailed evaluation framework)

Chapter 5: Discussion

Chapter 6: Conclusion and Recommendations

- 6.1 Conclusion
- 6.2 Recommendations

References

Appendixes

- Appendix A: Tools of survey
- Appendix B: Plan of Action
- Appendix C: Authorized Letters
- Appendix D: Photos gallery during CHD

Annex- 4

Guideline of Comprehensive Public Health Management Field Practicum Report

Preliminary pages

- Cover page
- Name of group members
- Evaluation Sheet
- Acknowledgements
- Table of Contents
- List of tables
- List of figures
- Executive summary
- List of Abbreviation

CHAPTER I: INTRODUCTION

- 1.1 Background
- 1.2 Rationale of field
- 1.3 Objectives of the study: General and Specific Objectives

CHAPTER II: METHODOLOGY

- 2.1 Study Area
- 2.2 Study Duration
- 2.3 Study Design
- 2.4 Source of Data / Information
- 2.5 Data Collection Tools and Techniques
- 2.6 Data Processing and Analysis
- 2.7 Validity and Reliability
- 2.8 Ethical Consideration
- 2.9 Limitations of the study
- 2.10 Detail Plan of Action
- 2.11 Logistic management

CHAPTER III: FIELD SETTING PROFILE

- 3.1 Introduction of the district
- 3.2 Geographical situation

- 3.3 Political and administration division
- 3.4 Demography
- 3.5 Ethnic groups/religion
- 3.6 Development infrastructure like transportation, communication, electricity, drinking water supply and education
- 3.7 Government health facilities
- 3.8 NGOs and INGO related with health and brief their activities
- 3.9 Economic status

CHAPTER IV: FINDINGS

A. PUBLIC HEALTH AND MEDICAL SERVICES SYSTEM ANALYSIS USING IPO MODEL

a. Input Analysis

- Infrastructures
- Staff
- Budget
- Equipments
- Technology
- Information
- Skill

b. Process Analysis

- Planning
- Organizing (organizational flow of Health Office, Structure of Organization)
- Staffing (Designation, Sanctioned, Filled and Vacant)
- Directing
- Coordination
- Recording/Reporting
- Budgeting
- Training
- Supervision and Monitoring
- Controlling

c. Output Analysis (Trend analysis of programs output by their indicators (analyze the data of respective district/municipality))

- National Immunization Program (**example**)
 - Introduction
 - Goal
 - Objectives
 - Target
 - Strategies
 - Activities
 - Trend analysis of past three years data (eg. coverage, target vs achievement, comparison, drop out etc)
- National Nutrition Program
- Family Planning Program
- Malaria Control Program
- Tuberculosis and Leprosy Control Program
- Non-communicable disease program
- Safe Motherhood Program
- Family Planning Program
- RTA and disaster situation and preparedness etc.

B. CRITICAL APPRASIAL OF PUBLIC HEALTH PROGRAM (USING SWOT)

Critically analyze on any one program (**for example**)

- Free Essential Health Care Service
- National Immunization Program
- Child Health
- Family Planning program etc.

C. EPIDEMIOLOGICAL STUDY (*Select one most common disease/health problems*)

a. Introduction

- Epidemiological characteristics, Health service and care indicator
- Mode of transmission (if communicable disease)
- Risk Factors
- Situation (Global, Regional, National)

- b. Rationale of the study**
- c. Objectives of the study:** General Objective and Specific objectives
- d. Methodology**
- e. Findings**
- f. Conclusion and Recommendations**

D. ORGANIZATIONAL VISIT (GOVERNMENT AND NON-GOVERNMENT)

Governmental organizations (example):

- District Coordination Committee
- Visited municipality
- Primary Health Care Center (PHCC)/Health Post
- Education office, Agriculture office
- District Police Office
- Other available offices

Non-governmental organizations working for public health (example):

- I/NGOs
- Private organizations
- Rehabilitation centers etc

CHAPTER V: MINI ACTION PROJECT AND FIVE YEAR PLAN

a. MINI ACTION PROJECT

- Introduction
- Need identification/ Prioritization
- Rational of the MAP
- Objectives of the MAP: General Objectives and Specific Objectives
- Planning of MAP
- Implementation
- Managerial Problems
- Evaluation of MAP

CHAPTER VI - A FIVE YEAR PLAN (use LFA)

- Introduction
- Rational for selecting the program for 5 year plan
- Vision
- Mission
- Goal
- Objectives
- Strategies
- Target Group
- Detailed activities
- Budget

CHAPTER VII: - CONCLUSION, RECOMMENDATIONS, FEEDBACK

- Conclusion
- Recommendations
- Feedback

REFERENCES

Appendices

Annex A: Plan of Action

Annex B: Interview guidelines for different respondents

Annex C: Analyzed Indicators

Annex D: Organogram of Health Office

Annex E: Letters from visited organizations

Annex F: Photo Gallery

Annex- 5

Guideline for Public Health Research Proposal

Preliminaries:

- i. Front Cover Page
- ii. Approval Page
- iii. Table of Contents
- iv. List of Figures
- v. List of Abbreviations

CHAPTER -1

- 1.1. Introduction/Background
- 1.2. Justification/rational of the Study
- 1.3. Research Questions/Hypothesis
- 1.4. Objectives of the Study (General and Specific Objectives)
- 1.5. Study variables
 - Independent Variables
 - Dependent Variables
- 1.6. Conceptual Framework
- 1.7. Operational Definitions
- 1.8. Expected Outcome (If applicable)

CHAPTER -2: Literature Review

CHAPTER -3: Methodology

- 3.1. Study Design
- 3.2 Study area/setting
- 3.3. Study Population
- 3.4. Selection Criteria: Inclusion and Exclusion Criteria
- 3.5 Sample Size
- 3.6 Sampling Technique
- 3.7 Data Collection Technique
- 3.8 Data Collection Tools
- 3.9 Pretesting of the Tools
- 3.10 Data collection and procedure
- 3.11 Data Processing and Analysis
- 3.12 Quality Control and Quality Assurance
- 3.13 Validity and reliability of research
- 3.14. Ethical Consideration

References

Appendixes: e.g.

- A. Informed Consent form
- B. Data collection tools
- C. Work plan (Gantt Chart)
- D. Map of study area

Annex-6

Guideline for Public Health Research Report

Preliminaries:

- i.** Front Cover Page/Title Page
- ii.** Declaration Sheet (Student's declaration)
- iii.** Supervisor Certificate
- iv.** Approval Page
- v.** Acknowledgements
- vi.** Abstract
- vii.** Table of Contents
- viii.** List of Table
- ix.** List of Figures
- x.** List of Abbreviations

CHAPTER -1

- 1.1. Introduction/Background
- 1.2. Justification of the Study
- 1.3. Research Questions/Hypothesis
- 1.4. Objectives of the Study (General and Specific Objectives)
- 1.5. Study Variables
 - Independent Variables
 - Dependent Variables
- 1.6. Conceptual Framework
- 1.7. Operational Definitions
- 1.8. Expected Outcome (If applicable)
- 1.9. Limitation of the Study (if applicable)

CHAPTER -2: LITERATURE REVIEW

CHAPTER - 3: METHODOLOGY

- 3.1. Study Design
- 3.2. Study area/setting
- 3.3. Study Population
- 3.4. Selection Criteria: Inclusion and Exclusion Criteria

- 3.5. Sample Size
- 3.6. Sampling Technique
- 3.7. Data Collection Technique
- 3.8. Data Collection Tools
- 3.9. Data Processing and Analysis
- 3.10. Quality Control and Quality Assurance
- 3.11. Pretesting of the Tools
- 3.12. Ethical Consideration

CHAPTER – 4: RESULTS/FINDINGS

CHAPTER 5: DISCUSSION

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

References

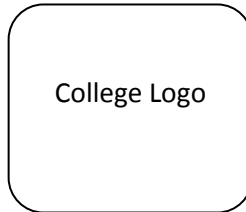
1. Annexes/Appendixes:

- 1. Informed Consent form
- 2. Tools of data collection
- 3. Work Plan (Gantt Chart)
- 4. Map of Study Area
- 5. Institutional Review Committee (IRC) Approval Page (if appropriate)
- 6. Authorized Documents (if any)
- 7. Photographs during Research Activities (if any)

Annex- 7

Sample of research report front cover - black binding with golden lettering

-----**RESEARCH TITLE**-----
(TITLES IN UPPERCASE and BOLD)



SUBMITTED BY

-----**NAME OF STUDENT**-----
(Student's First, middle and Family Name with Bold,
UPPERCASE)
Batch: -----
PU Regd. No: -----

**SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE DEGREE OF BACHELOR OF
PUBLIC HEALTH (BPH)**

**SUBMITTED TO
DEPARTMENT OF PUBLIC HEALTH
-----COLLEGE NAME-----
PURBANCHAL UNIVERSITY
NEPAL
Year -----**

Annex – 8

Sample of a declaration for research

DECLARATION

To the best of my knowledge and belief I declare that this research entitled " -----*title of the research*-----" is the result of my own research and contains no material previously published by any other person except where due acknowledgement has been made. This research report contains no material, which has been accepted for the award of any other degree in any university.

Student's signature:

Student's Name:

Batch:

PU Registration no.:

Date:

Annex -9

Approval note of research supervisor

SUPERVISOR CERTIFICATE

As being the research supervisor of -----*name of student* -----who is a BPH student in the Department of Public Health, -----
----- College, Nepal, I would like to certify that I have sighted the documentation supporting the research report entitled "----
----*research title*-----" and I am satisfied that the documentation is sufficient as the basis for examination. So I would like to recommend for final evaluation of this research.

Signature:

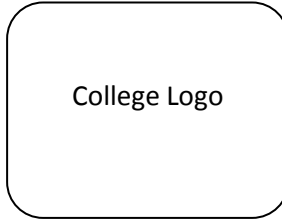
Name of Supervisor:

Designation:

Date:

Annex - 10

Example research Approval sheet (use college letter head)



CERTIFICATE

This research report entitled "" Submitted by
(**Name of student**) in partial fulfilment of the requirement for the
degree of Bachelor of Public Health, Purbanchal University is evaluated
and approved

.....
Name of Internal
Internal Examiner
Date:

.....
Name of External
External Examiner
Date:

.....
Name
Head, Department of Public Health
College Name
Date

.....
Name
Principal
College Name
Date

Annex -11

INFORMED CONSENT

Purbanchal University

College Name

College address

Namaste! I am student of BPH 4th Year from ----*college name*----. As per the requirement of the course, I am carrying out a research entitled “.....”.....”. This is completely an academic work and the importance of this study depends on your valuable answers. Your privacy will always be secured and information you provide does not affect it. It is voluntary and you can leave the interview at any time if you wish to. I hope for your participation.

Would you like to participate?

1. Yes 2. No

Interviewer’s name (optional)

ID number

Date