CURRICULUM

FOR

BACHELOR OF PUBLIC HEALTH (BPH)

FOUR YEAR, EIGHTSEMESTER

PURBANCHAL UNIVERSITY
(FACULTY OF MEDICAL AND ALLIED SCIENCE)
BIRATNAGAR, NEPAL

2012

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Acknowledgment

It gives me great pleasure to have this comprehensive course of study of Bachelor of Public Health for Purbanchal University. With the changing context of the country, the University has focused on inclusive development of course design and curriculum of bachelor of public Health. The University has shifted Bachelor in Public Health course from 3 years to 4 years system (semester system) from this academic year 2069/70. So, I am hopeful that this curriculum would be able to produce competent, skillful and energetic public health graduates to serve the nation in future.

This full package of curriculum is the continuous effort of Asso. Prof. Salau Din Myia, Coordinator; Asst. Prof. Binod Regmi, Member and Asst. Prof. Janak Kumar Thapa, Member of Curriculum Development core committee so, I would like acknowledge them for their hard work.

I like to extend my sincere thanks to Prof. Dr Muni Raj Chettri, Chairman and all the member of Public health subject committee for their constant support and encouragement in developing this curriculum.

Similarly, my vote of thanks goes to respective professors, seniors, faculty teachers, subject teachers, curriculum consultants and Allied Science Institutional Association (ASIA) for their help, necessary advice in development process of this curriculum. I would also like to appreciate all the Health Science Colleges affiliated to Purbanchal University for their financial and motivational support in making this curriculum.

My special thanks go to Little Buddha College of Health Sciences for kind support in curriculum development procedure by providing us venue, material and refreshment. Last not the least, we would also like to acknowledge Nepal Public Health Association (NePHA) for their support in completing this endeavor.

Prof. Dr. Ram Kumar Singh
Dean, Faculty of Medical and Allied Science
Purbanchal University
2012

BACHELOR OF PUBLIC HEALTH (BPH) PROGRAM

Section A: General information

1. Background and Goal

Revolution in modern information technology has made the world a smaller place with all countries within easy reach. The western developed countries have massively capitalized on the new advances of science and technology and have improved the socio-economic and the quality of life of their people to great extent that is inconceivable in the developing countries. Access to quality education, health care service quality food, shelter and social security with the provision of all the necessary services have, become the essential needs of the common people in the developed countries whereas these very essential needs have become the exclusive privileges of the wealthy and affluent class in must of the developing countries. Access to quality health education and service has more than any other factor, significantly improved the quality of life in the western world. The improvement in the quality of life has stemmed from a substantial public and private sectors investment on health education and services over a long period of time. It is universally recognized that until and unless a country can produce high quality and adequate human health manpower at various levels needed by the country, it is inconceivable to bring intended qualitative improvement in health sector. The production of high quality human resources in health sector at various levels must be based on country's needs and the priority.

Nepal faces a major challenge in providing basic health care services let alone provides high quality health services to its population. One of the most limiting factors in meeting this challenge is the severe lack of health workers at various levels ranging from junior, medium to higher levels. A large number of junior and medium level public health workers are needed to deliver the basic health service to the people at various levels (community, district, regional and national). The present rate of production of public health workers at various levels relative to the need of the country is so small that it may take more than many decades to meet the present demand of the country.

Realizing this dire need of health professionals in public health sector, GoN has encouraged private sector to invest in public health education to produce quality manpower to meet national needs. It is in this context that Purbanchal University has initiated bachelor programs in health sciences with the goal of contributing to the improvement of public health service of the country through the production of quality human resources in health sciences needed by the country. Purbanchal University is a multi faculty innovative University involved in the production of high quality human resources in various disciplines of sciences. Therefore, developing curriculum with revision in four years semester system academic course in bachelor of public health (BPH) is certainly an innovative step in producing qualified graduates in health sector for coming days.

Government of Nepal; Ministry of Health and Population has committed itself to raise the health status of the people of Nepal pursing the strategy of primary health care [PHC] in order to realize the objectives of health for all. All of the components of primary health care call for intersect oral co-ordination as well as active community participation and involvement. It is in this context that effective dissemination of relevant. Technically sound, and feasible public health measures are necessary in order to increase individual and community capabilities for involvement and self-reliance in health sector and to promote healthy behavior with respect to disease prevention and control, environmental health, Family health, nutrition. Healthy life styles and so on. Thus it has become essential through understanding of all relevant branches of public health with special emphasis on the must appropriate public health measures. These are necessary for promoting individual and community involvement.

The country's health situation and the indicators of health reveal that the production of public health professionals and graduates at various levels must be carefully planned and accelerated in view of the dire needs of such manpower to provide essential preventive, curative, promotive and rehabilitative quality care services and ensure everybody's access to health and realize Alma-Ata Declaration of which Nepal is a signatory. Therefore Purbanchal University has envisaged contributing towards this noble goal of providing quality health services and improving peoples health though the production of public health professional graduates required by the country.

2. Purpose of the Program

The bachelor of public health program (BPH) aims to prepare professional public health specialists with the highest technical and managerial competence in district level health programs including problem identification, planning, implementing, training, health education and research. Such specialists can serve in various types of positions at national, regional, zonal, district or local levels. They will be needed in various kinds of Governmental or non-Governmental health agencies, hospital, schools and institutions. Other possible area of absorption may involve special responsibilities, e.g. working primarily with school teachers administering health education services, and preparing health workers in public health fields. In general, the graduates of BPH program should be able to carry out the responsibilities designed for the district public health officer.

3. Career Opportunity

There is growing concern for improvement of health status from all stakeholders within Nepal or in the foreign countries. Provision of equitable access to health care for attainment of an acceptable 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 scientists are investing themselves in introducing public health interventions that can deal with the lifestyle. However, Nepal is facing three fold burdens of diseases (communicable, lifestyle related and poverty). In order to cope with this complex situation, development of public health graduates has become inescapable. Very few number of public health workers are working within Nepal or in the other countries. In general, a BPH graduates can choose following area to build the career:

- University (Education and Research)
- Health Organization
- Nepal Government- Public Health Sector
- Private Health Sector
- Health Center
- Research sector
- Different NGOs & INGOs.
- Local development sector

4. 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;

- Provide advanced knowledge and practical skill to health sciences graduates and with biology
- Develop required skill in designing, analyzing and evaluating applied public health science research and 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 district public health management issues, concern and problems.
- Foster positives attitudes in health professionals and encourage them to provide more accessible and equitable primary health care services for disadvantage groups and communities.
- Develop the leadership capabilities of public health professionals in the management of primary health care and district level public health programs.
- Enhance vocational competence of public health professionals through advanced education in health strategies. Health promotion and health programming.

5. Competencies to be achieved by the Public Health Graduates

It is envisaged that the professional public health specialists graduated from Purbanchal University should acquire knowledge, skill and attitudes .which will enable them to carry out the following activities.

- ✓ View primary Health care in its totality with respect to biological. environmental, socio-economic and cultural factors .and
- ✓ Be able to identify and implement promotional, preventive and curative components of public health programs.
- ✓ Determine existing community health problems by use of epidemiological investigation and prioritize the problems.
- ✓ 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
- ✓ Demonstrate attitudes, which reflect acceptance of, and respect for the important roles of colleagues, sub-ordinate staff and community members such attitudes is expected to enable them to ;
    - Provide direction for smooth functioning of a public health team
    - Train, supervise and support existing public health staff.
    - Arrange for intersect oral co-ordination and cooperation
    - Raise awareness among community citizens concerning the existing public health problems.
    - Organize health actions which will address these problems especially bearing in mind the needs of disadvantaged groups and communities.

In view of the above considerations, it is quite evident that a tremendous responsibility has to be borne by a professional public health specialist in order to provide; leadership to the community, to middle level and grass roots health workers in order to bring about health for all.

6. Duration of the program

The course has been designed for four academic years (Eight Semester) concentrating in general public health courses. There will be concurrent and residential fieldwork during the academic years.

7. Course Structure:

- The program follows the credit system. Each course is assigned a certain number of credits depending generally upon its lecture, tutorial and practical work hours in a week. In theory subjects, one lecture per week is assigned one credit as a general rule.
- One credit hours of theory is equivalent to 16 hours lecture and one credit hour of practical is equivalent to 32 hours practical.

Total Credit hours 168 Credit (One Hundred Sixty Eight Credits)

8. Course Coding

Each course is identified by initial letter of the course title followed by three digit number and credit hours after decimal i.e. BPH 101.1-AP for Anatomy and Physiology, PSD 101.1-AP for Practical Skill Development and TPP 102.1-IPH for Introduction to Public health and similarly.

9. Academic Schedule

The academic session consists of two semesters per year. Generally the Fall Semester (September-February) starts in September and the Spring Semester (March-August) begins in February, however it may differ slightly in any particular year.

10. Normal and Maximum Duration of Stay in the University

The normal duration for completing the BPH course is four years. In exceptional case, however, the student is ***allowed normal duration plus two years to complete*** the course. If a ***student is unable to complete the course within two years from final examination of last semester, the University registration is annulled.***

11. 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 overhead projector, multimedia and white boards,
- Learning process through Groups discussion, interaction, brain storming, observation
- Reading assignment,
- Field study, analysis and group presentation
- Directed study and seminar.
- Teaching approach- Participatory base andragogy with appreciative approach

12. Teaching and Learning Setting

A participatory teaching and learning environment is created. The concerned teacher will facilitate and motivate the students for participatory learning through group discussion and interaction. The use of modern information technology will be emphasized and students will be directed and encouraged to develop their analytical capacity for the acquisition. Processing, interpretation and presentation of the knowledge acquired.

13. Medium of Teaching and Examination

The medium of instruction and examination for BPH program will be English.

Section B. Admission and Examination

1. Admission criteria

To fulfill the entry-level requirement for admission to this course, the candidates should have proficiency certificate level in general medicine, or any other recognized certificate level courses in health sciences, or intermediate science certificate or ten plus two with biology and a pass the entrance examination as taken by University.

2. Admission Procedure

- A notice inviting application for admission will be publicly announced.
- The application forms are provided, on request, after the payment of the prescribed University fee.
- The eligible candidates are publically informed to take the entrance examination
- The college may also take interview with pass list candidates for final selection for admission
- College will provide the time duration of admission

(Note: All students must submit their all certificates and credentials from SLC to Intermediate level including their citizenship)

3. Evaluation

There will be final examination at the end of each consecutive semester. This will carry 80% marks in final examination and 20 % marks will carry by internal assessment. A student has to get minimum 50% mark in theory and 60% marks in practical separately to pass the subject. Internal assessment will not be taken for practical subject (PSD, FHE and TPP).

3.1 ***Course Evaluation Scheme for*** respective college, campus or institute.

3.1.1 For internal mark-20% (Out of 20 marks of internal assessment in individual subject)

SN	Description	Weightage
1	Class attendance	25%
2	Class Presentation and home Assignment	25%
3	Two times Internal examination in each semester (Each carry 5%)	50%
	Total	**100%**

3.2. ***For community health diagnosis***

Practical 100 %

SN	Description	Weightage
1	Pre field work (instrument development, pretesting)	5 %
2	Team work in field	10 %
3	Field Attendance (daily diary maintain or means of verification)	10 %
4	Evaluation by Campus/Institute Supervisor in field	20 %
5	Presentation by Students at Community	10 %
6	Micro health Project Planning and implementation	10 %
7	Presentation by Students at respective college	10 %
8	Community Diagnosis Field Report (Written)	15%
9	Oral defense	10%
	Total	**100 %**

3.3 For comprehensive District Health Management field practice evaluation

Practical 100 %

SN	Description	Weightage
1	Team work in field	5%
2	Field Attendance (daily diary maintain and means of verification)	10%
3	Evaluation by Local Filed Supervisor	10%
4	Evaluation by Campus/Institute Supervisor in field	10%
5	Evaluation by D/PHO	15%
6	Mini action project planning and implementation	5%
7	Critical appraisal (individual report) on public health issues of district	5%
8	Seminar organize at D/PHO	10%
9	Presentation by students at respective college	5%
10	Comprehensive field Report (Written) final (Three copy of spiral binding with one softcopy in CD/DVD)	15%
11	Oral individual examination final	10%
	Total	**100%**

3.4 For Public health research report evaluation

Practical 100 %

SN	Description	Weightage
1	Proposal presentation and submission	10%
2	Evaluation by research supervisor	45%
3	Report presentation with draft report submission	10%
4	Oral defense and examination (External)	20%
5	Final report submission (Three copy of hard cover black binding with one softcopy in CD/DVD)	15%
	Total	**100%**

3.5 For Practical skill development evaluation and term paper preparation

Practical 100 %

SN	Description	Weightage
1	Individual participation (attendance)	35%
2	Log/practical book maintaining, report submission	35%
3	Final oral and individual examination	30%
	Total	**100%**

3.6 For Family health exercise evaluation

Practical 100 %

SN	Description	Weightage
1	Individual work in field	15%
2	Development of indicator	10%
3	Tool development & finalization	15%
4	Presentation bystudents at respective college	10%
5	Report submission	15%
6	Oral and individual examination	35%
	Total	**100%**

4. Attendance Requirement

The students must attend every lecture, tutorial, seminar and practical classes. However, to accommodate for sickness and other contingencies, the attendance requirement shall be a minimum of 80% of the classes in any particular subject, otherwise s/he shall not be allowed to take the final examination in that subject. If a student is continuously absent in the class for more than four weeks without notifying the authorities, his/her name will be removed form the school roll.

5. Course Registration

Student must be registered in University in first semester. University will provide the individual registration number at the end of first semester. The academic record of a student shall be maintained in terms of the courses for which s/he register in any semester, and the grades s/he obtain in those courses. Registration for course is done at the beginning of first semester. Since registration is a very important procedural part of the credit system, it is absolutely essential that all students present themselves at the school. In case of illness or any exceptional circumstance during the registration period, the student must inform the University authority.

6. Repeating a Course

Since passing of all courses individually is a degree requirement, the student must retake the falling/dropping subject and must successfully complete the course. Student can retake a course when one receives GPA less than 2.0. The grade earned on the retake will be substituted for the grade earned previously

7. Transfer of Credit Hours

A maximum up to 25% of the total credit hours of course complete in an equivalent program of a recognized institution may be transferred / waived for credit on the recommendation of the head of the faculty. For transfer of credit, a student must have received a grade of C or better in respective course. Courses taken earlier than three years from the time of transfer may not be accepted for transfer of credit. The concerned Subject Committee of the University will make an evaluation of the applicant for transfer of credit. The awarding of transferred credit will be based on the applicant's score in the University, which s/he has attended previously.

However, a student transferring from one college to another college of Purbanchal University, prior to get permission from concerned college, may receive a credit transfer of all the compatible courses completed with at least grade C.

8. Final Examination

University conducts final examination at the end of each semester. The procedure of final examination conduction will be as per the examination rules of the University.

9. Unsatisfactory Results

Students may apply for re-totaling of their grades as per University rule, upon payment of prescribed fee.

10. Grading System

The grades (marks) awarded to student in a course 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 will be as follows:

Table: 1 Grading System for BPH (Purbanchal University)

Letter as Grade	Secure Marks in %	GPA Score	Division equivalence	Grade Point Description
A	>80	4	Distinction	Excellent
A-	76-79		First division	Very Good
B+	71-75	3.7		
B	66-70	3.3		
B-	61-65	3	Second division	Good
C+	56-60	2.7		
C	51-55	2.3	Third division	Satisfactory
C-	50	2		Marginal
F	<50		Fail	Fail

The student's final grade will be calculated on cumulative grade point average (CGPA).

11. Award of degree

On completion of all requirements with CGPA of 2.0 or better, the student will be awarded a degree of Bachelor of Public Health (BPH).

12. Degree with distinction

To obtain a degree with distinction, a student must have obtained CGPA with 4.

Section C: Curriculum Structure
FIRST YEAR

FIRST SEMESTER

Course Code	Course Title	Nature of subject		Credit hour		Teaching Hour		FM	PM
				Th.	Pr.	Th.	Pr.		
BPH 101.1-AP	Anatomy and Physiology	Theory	-	3	-	48	-	100	50
BPH 101.2-PFAS	Pathophysiology, First Aid and Safety	Theory	-	3	-	48	-	100	50
BPH 101.3-BI	Biochemistry and Immunology	Theory	-	3	-	48	-	100	50
BPH 101.4-MPBV	Microbiology, Parasitology, Bacteriology & Virology	Theory	-	3	-	48	-	100	50
BPH 101.5-MER	Medical Entomology and Rodentology	Theory	-	3	-	48	-	100	50
BPH 101.6-PE	Professional English	Theory	-	3	-	48	-	100	50
PSD 101.1-AP	Practical Skill Development (Anatomy and Physiology)	-	Practical	-	1	-	32	50	30
PSD 101.2-PFAS	Practical Skill Development (Pathophysiology, First Aid and Safety)	-	Practical	-	1	-	32	50	30
PSD 101.3-BI	Practical Skill Development (Biochemistry and Immunology)	-	Practical	-	1	-	32	50	30
PSD 101.4-MPBV	Practical Skill Development (Microbiology, Parasitology, Bacteriology & Virology)	-	Practical	-	1	-	32	50	30
PSD 101.5-MER	Practical Skill Development (Medical Entomology and Rodentology)	-	Practical	-	1	-	32	50	30
Total				**18**	**5**	**288**	**160**	**850**	**450**

SECOND SEMESTER

Course Code	Course Title	Nature of subject		Credit hour		Teaching Hour		FM	PM
				Th.	Pr.	Th.	Pr.		
BPH 102.1-IPH	Introduction to Public Health	Theory	-	3	-	48	-	100	50
BPH 102.2-BE	Basic Epidemiology	Theory	-	3	-	48	-	100	50
BPH 102.3-BFN	Basic Food and Nutrition	Theory	-	3	-	48	-	100	50
BPH 102.4-BCA	Biostatistics and Computer Application	Theory	-	3	-	48	-	100	50
BPH 102.5-PPT	Pharmacy, Pharmacology and Toxicology	Theory	-	3	-	48	-	100	50
TPP 102.1-IPH	Term Paper Presentation (Introduction to Public Health)	-	Practical	-	1	-	32	50	30
TPP 102.2-BE	Term Paper Presentation (Basic Epidemiology)	-	Practical	-	1	-	32	50	30
TPP 102.3-PPT	Term Paper Presentation (Pharmacy, Pharmacology and Toxicology)	-	Practical	-	1	-	32	50	30
PSD 102.1-BFN	Practical Skill Development (Basic Food and Nutrition)	-	Practical	-	1	-	32	50	30
PSD 102.2-BCA	Practical Skill Development (Biostatistics and Computer Application)	-	Practical	-	1	-	32	50	30
Total				**15**	**5**	**240**	**160**	**750**	**400**

SECOND YEAR

THIRD SEMESTER

Course Code	Course Title	Nature of subject		Credit hour		Teaching Hour		FM	PM
				Th.	Pr.	Th.	Pr.		
BPH 203.1-EHE	Environmental Health and Ecosystem	Theory	-	3	-	48	-	100	50
BPH 203.2-FHMCH	Family Health, Maternal and Child Health	Theory	-	3	-	48	-	100	50
BPH 203.3-PSFP	Population Studies and Family Planning	Theory	-	3	-	48	-	100	50
BPH 203.4-FHE	Fundamentals of Health Education	Theory	-	3	-	48	-	100	50
BPH 203.5-PHCIH	Primary Health Care and International Health	Theory	-	3	-	48	-	100	50
BPH 203.6-CHOD	Community Health Organization and Development	Theory	-	3	-	48	-	100	50
PSD 203.1-EHE	Practical Skill Development (Environmental Health and Ecosystem)	-	Practical	-	1	-	32	50	30
FHE 203.2-FHMCH	Family Health Exercise (Family Health, Maternal and Child Health)	-	Practical	-	1	-	32	50	30
TPP 203.3-PSFP	Term Paper Preparation (Population Studies and Family Planning)	-	Practical	-	1	-	32	50	30
TPP 203.4-PHCIH	Term Paper Preparation (Primary Health Care and International Health)	-	Practical	-	1	-	32	50	30
TPP 203.5-CHOD	Term Paper (Community Health Organization and Development)	-	Practical	-	1	-	32	50	30
Total				**18**	**5**	**288**	**160**	**850**	**450**

FOURTH SEMESTER

Course Code	Course Title	Nature of subject		Credit hour		Teaching Hour		FM	PM
				Th.	Pr.	Th.	Pr.		
BPH 204.1-MSA	Medical Sociology and Anthropology	Theory	-	3	-	48	-	100	50
BPH 204.2-AEOH	Applied Environmental and Occupational Health	Theory	-	3	-	48	-	100	50
BPH 204.3-AE	Applied Epidemiology	Theory	-	3	-	48	-	100	50
BPH 204.4-AB	Applied Biostatistics	Theory	-	3	-	48	-	100	50
BPH 204.5-APHN	Applied Public Health Nutrition	Theory	-	3	-	48	-	100	50
BPH 204.6-SHOH	School Health and Oral Health	Theory	-	3	-	48	-	100	50
TPP 204.1-MSA	Term Paper Preparation (Medical Sociology and Anthropology)	-	Practical	-	1	-	32	50	30
PSD 204.2-AEOH	Practical Skill Development (Applied Environmental and Occupational Health)	-	Practical	-	1	-	32	50	30
TPP 204.3-AE	Term Paper Preparation (Applied Epidemiology)	-	Practical	-	1	-	32	50	30
TPP 204.4-APHN	Term Paper Preparation (Applied Public Health Nutrition)	-	Practical	-	1	-	32	50	30
PSD 204.5-SHOH	Practical Skill development (School Health and Oral Health)	-	Practical	-	1	-	32	50	30
Total				**18**	**5**	**288**	**160**	**850**	**450**

THIRD YEAR

FIFTH SEMESTER

Course Code	Course Title	Nature of subject		Credit hour		Teaching Hour		FM	PM
				Th.	Pr.	Th.	Pr.		
BPH 305.1-RHG	Reproductive Health and Gender	Theory	-	3	-	48	-	100	50
BPH 305.2-CE	Clinical Epidemiology	Theory	-	3	-	48	-	100	50
BPH 305.3-AHE	Applied Health Education	Theory	-	3	-	48	-	100	50
BPH 305.4-MHBS	Mental Health and Behavioral Science	Theory	-	3	-	48	-	100	50
BPH 305.5-CHD	Community Health Diagnosis	Theory	-	3	-	48	-	100	50
TP 305.1-RHG	Term Paper Preparation (Reproductive Health and Gender)	-	Practical	-	1	-	32	50	30
PSD 305.2-AHE	Practical Skill Development (Applied Health Education)	-	Practical	-	1	-	32	50	30
PSD 305.3-CHD	Practical Skill Development (Community Health Diagnosis)	-	Practical	-	5	-	160	100	60
Total				**15**	**7**	**240**	**224**	**700**	**370**

SIXTH SEMESTER

Course Code	Course Title	Nature of subject		Credit hour		Teaching Hour		FM	PM
				Th.	Pr.	Th.	Pr.		
BPH 306.1-HSMN	Health Service Management in Nepal	Theory	-	3	-	48	-	100	50
BPH 306.2-PHAM	Public Health Administration and Management	Theory	-	3	-	48	-	100	50
BPH 306.3-BCCH	Biodiversity, Climate Change and Health	Theory	-	3	-	48	-	100	50
BPH 306.4-TCD	Training & Curriculum Development	Theory	-	3	-	48	-	100	50
BPH 306.5-HEHF	Health Economics and Health Financing	Theory	-	3	-	48	-	100	50
PSD 306.1-HSMN	Practical Skill Development (Health Service Management in Nepal)	-	Practical	-	1	-	32	50	30
TPP 306.2-PHAM	Term Paper Preparation (Public Health Administration and Management)	-	Practical	-	1	-	32	50	30
PSD 306.3-TCD	Practical Skill Development (Training & Curriculum Development)	-	Practical	-	1	-	32	50	30
TPP 306.4-HEHF	Term Paper Preparation (Health Economics and Health Financing)	-	Practical	-	1	-	32	50	30
Total				**15**	**4**	**240**	**128**	**700**	**370**

FOURTH YEAR

SEVENTH SEMESTER

Course Code	Course Title	Nature of subject		Credit hour		Teaching Hour		FM	PM
				Th.	Pr.	Th.	Pr.		
BPH 407.1-PHR	Public Health Research	Theory	-	3	-	48	-	100	50
BPH 407.2-UHPHEDM	Urban Health, Public Health Engineering and Disaster Management	Theory	-	3	-	48	-	100	50
BPH 407.3- LMSA	Logistic Management and Computer Application	Theory	-	3	-	48	-	100	50
BPH 407.4-PHESHP	Public Health Ethics, Social Health and Professionalism	Theory	-	3	-	48	-	100	50
PSD 407.1-PHR	Practical Skill Development (Public Health Research)	-	Practical	-	1	-	32	50	30
TPP 407.2-UHPHEDM	Term Paper Preparation (Urban Health, Public Health Engineering and Disaster Management)	-	Practical	-	1	-	32	50	30
TPP 407.3-PHESHP	Term Paper Preparation (Public Health Ethics, Social Health and Professionalism)	-	Practical	-	1	-	32	50	30
PSD 407.4-CPHMFP	Practical Skill Development (Comprehensive Public Health Management Field Practice)	-	Practical	-	5	-	160	100	60
Total				**12**	**8**	**192**	**256**	**650**	**350**

EIGHTH SEMESTER

Course Code	Course Title	Nature of subject		Credit hour		Teaching Hour		FM	PM
				Th.	Pr.	Th.	Pr.		
BPH 408.1-NHPP	National Health Policy and Plan	Theory	-	3	-	48	-	100	50
BPH 408.2-HRH	Human Resource for Health	Theory	-	3	-	48	-	100	50
BPH 408.3-PM	Project Management	Theory	-	3	-	48	-	100	50
TPP 408.1-NHPP	Term Paper Preparation (National Health Policy and Plan)	-	Practical	-	1	-	32	50	30
TPP 408.2-HRH	Term Paper Preparation (Human Resource for Health)	-	Practical	-	1	-	32	50	30
PSD 408.3-PM	Practical Skill Development (Project Management)	-	Practical	-	1	-	32	50	30
PSD 408.4-PHRR	Practical Skill Development (Public Health Research Report)	-	Practical	-	6	-	192	200	120
Total				**9**	**9**	**144**	**288**	**650**	**360**

Summary Chart

Course Title	Credit hour		Teaching Hour		Total BPH Full Mark	Total BPH Pass Mark
	Theory	Pr.	Th.	Pr.		
Theory	120	-	1920	-	**6000**	**3200**
Practical	-	48	-	1536		
Total	**168**		**3456**			
Total Theory Subject no		40				
Total Practical Subject no		35				

Examination marks

Nature of Subject	Final exam FM	Internal assessment FM	Final exam PM	Internal assessment PM	Total FM	Total PM
Theory	80	20	40	10	**100**	**50**
Practical	50	As per evaluation sheet			**50**	**30**
	100	As per evaluation sheet			**100**	**60**
	200	As per evaluation sheet			**200**	**120**

Examination time

Subject type	Time	Evaluation tools
Theory	3 hours	Questionnaire as per guideline provided in annex
Practical exam	**As per necessary**	***Appointed by Purbanchal University External examiner is mandatory for every practical subject***
PSD		
TP		
CHD		
FHE		
Comprehensive Public Health Practice		
Research Report		

Evaluation tools for practical: Questionnaire set by college based on practical activities, presentation, demonstration, written and viva

First Year

First Semester

Course Title	Anatomy and Physiology	
First Year	First Semester	Course code BPH 101.1-AP
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Descriptions:

The course has been designed to impart basic concept and knowledge on structure and function of cell, tissues, organ, system under the subject of human Anatomy and Physiology.

Learning Objectives:

- Upon the successful completion of course, students will be able to:
- Explain the structures and functions of different systems of human body,
- Describe structures and the function of the cells, tissues, organ system and type and their relation to each other and to the physiological homeostasis.

Course Contents

Unit1: Anatomy **24 Hours**

- **General Introduction:** **4 Hours**
  - Define various important anatomical terminologies-
  - Anterior, posterior, superior, inferior, extension, flexion, abduction, adduction, distal, proximal sagital, (Coronal, Palmar, Dorsa and Ventral).
  - Describe the structure and function of human cell, tissue and organ.

- **Musculo Skeletal** **2 Hours**
  - Bone- Composition and function
  - Name and identification of appendicular and axial skeleton.
  - Name of different types of joints and their characteristics.

- **Neurosensory System** **3 Hours**
  - Mention Different components of nervous system.
  - Identify different parts of the brain and coverings.
  - Mention extent and covering of spinal cord.
  - Name main tracts of spinal cord.
  - Name the cranial nerves and their area of supply.

- **Respiratory System** **3 Hours**
  - Name different parts of respiratory system
  - Identify Paranasal sinuses
  - Extent of larynx, trachea and bronchi
  - Identify different parts of lungs and pleura
  - Mention different parts of bronchial tree.

- **Blood and Cardiovascular System** **3 Hours**
    - Blood- Composition and function
    - Name and identify parts, chambers and valves of heart.
    - Name the extent and branches of abdominal aorta, external carotid artery and internal iliac artery.
    - Name, identify and mention the extent of axillary artery, brachial artery, radial artery, ulnar artery, femoral artery, poplitial artery, anterior and posterior tibial arteries, dorsalis pedis.
    - Name and identify superior venacava (SVC), Inferior Venacava (IVC), Dural Venus sinsues.

- **Lymphatic System** **1 Hour**
    - Mention area of drainage of thoracic ducts, axillary group of lymph nodes. Inguinal group of lymph nodes Pre and Paraortic lymph nodes.

- **Reproductive System** **1 Hour**
    - Name different parts, situation and extent of male and female genital organs.

- **Urinary System** **2 Hours**
    - Name different parts
    - Explain parts of kidney
    - Mention different parts of nephron.
    - Mention different parts of urinary bladder

- **G.I. System** **3 Hours**
    - Name Different parts of Gastro Intestinal Tract
    - Mention name, position of salivary glands and pancreas
    - Mention position lobes and structure of liver
    - Name and extent hepatic biliary appendages.
    - Mention basic concept of peritoneal folds.

- **Endocrine System** **2 Hours**
    - Enumerate different endocrine glands
    - Mention their position, secretions and their functions.

Unit 2 : Physiology **24 Hours**

- **General Physiology** **4 Hours**
    - Name different components of human cell and their function.
    - List different tissues of body and their characteristics
    - Define body fluids and electrolyte balance, classify them and mention their composition.

- **Cardiovascular system and Blood** **4 Hours**
  - List the function of heart
  - Explain pulmonary and systemic circulation cardiac cycle and heart sound.
  - Define blood pressure and explain the mechanism of its regulation.
  - Correlate physiological aspects of the Ischemic heart disease, hypertension, and arteriosclerosis.
  - Mention composition and functions of blood.
  - Define haemopoiesis and disorders of blood components.
  - Define blood groups and mention its importance.
  - List the clothing factors and explain the step the coagulation.
  - List the function of spleen.

- **Respiratory System** **3 Hours**
  - Function of the nose, paranasal sinuses, nasopharynx, trachea, bronchus and alveoli of the lungs.
  - Surfactants of lungs.
  - Gasses exchanges in the lungs.
  - Lungs volume and change in volume in different respiratory activities. COPD, dyspnoea, PND and orthopnoea.
  - Mechanism of coughing.

- **GI System** **3 Hours**
  - Mechanism of mastication, deglutition, digestion, absorption, defecation and vomiting.
  - Activation of different enzyme system on smell, ingestion and hunger.
  - Function of different glands involved in digestion i.e. tonsils, salivary glands, gastric glands, pancreas, liver etc.
  - Peristalsis and regurgitation.

- **Musculo Skeletal** **3 Hours**
  - Muscles contraction and excitation.
  - Movement of different joints ie. Shoulder, hip, knee, ankle, elbow, wrist etc.
  - Co-ordiantion of movement
  - Cellular respiration.
  - Cellular dehydration.
  - Cellular contraction.

- **Nervous System** **3 Hours**
  - List the function of different parts of brain and spinal cord and its coverings.
  - Mention the function of different cranial nerves.
  - Mention the functions of special senses organs.
  - Enumerate the functions of sympathetic and para-sympathetic nerves.

- Correlate physiological aspect of meningitis, encephalitis and epilepsy.

- **Urinary System** **2 Hours**
  - List the function of different parts of kidney and urinary tract.
  - Explain the mechanism of formation of urine and micturition
  - Correlate the physiological aspects of polyuria and the renal stones.

- **Endocrine/Productive System** **2 Hours**
  - Enumerate the main function of different endocrine glands.
  - Correlate the physiological aspects of goiter and diabetes mellitus.
  - List the main function of male and female genital organs.
  - Explain the physiological of menstruation.
  - Explain the physiological basis of contraceptives.

Teaching Learning Methods

Lectures, group discussions, library study assignments, home assignments and demonstration

Teaching Material –poster, model, real material etc.

Evaluation

Internal assessment in different forms 20%

Final examination 80%

References:

1. Anatomy & Physiology – Ross and Willison, Recent edition.
2. Anatomy & Physiology for Nurses, Recent edition.
3. Hamilton Systemic Anatomy, Recent edition.
4. Chaurasia: Handbook of Human Anatomy, CBS Publication. Current Edition.
5. Guyton AC & Hall JE: Guyton Human Physiology and Mechanisms of Disease, Hartcourt Publishers Limited, 1996.
6. Williams PL (Ed): Gray's Anatomy, Recent edition, Churchill Livingston, London. Recent edition

Course Title	Pathophysiology, First Aid and Safety	
First Year	First Semester	Course code BPH 101.2-PFAS
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Descriptions:

The course has been designed to impart the basic concepts and knowledge on safety education and first aid in emergency period of public health field. The course aims to develop the technical skills that skill to handle the critical situation of emergency period for providing the first aid treatment to the public as a primary prevention.

Learning Objectives

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

- Explain the basic concepts and acquire the basic knowledge of safety education and first aid.
- Identify the emergency situation in public health situation and its management.
- Explain different life threatening casualty condition and apply first aid skills to save life and promote health and recovery of the patient.
- Describe the basic clinical system related pathological, terminologies and basic pathological changes in the cells, tissues organs and the system of body.

Course contents

Unit 1: Safety education and management **6 Hours**

- **Safety education:**
  - Introduction, importance
  - Need of learning about safety education for public health professionals

- **Management of Safety Measure in different areas**
  - Management at home
  - Management at school
  - Management on road
  - Management in play ground
  - Management in work place
  - Management in Public place

Unit 2: First Aid **20 Hours**

- **Introduction to first Aid**
  - Define first aid and describe objectives, scope, responsibility, principle and important of first aid.
  - Describe the qualification of first aid care provider and his/her ending responsibility.
  - Define artificial respiration; describe importance, types, steps and process of cardio-pulmonary resuscitation.

- **Definition, its type, sign and symptoms and first aid management of the following emergency condition**
    - Shock
    - Poisoning (insecticides, rodenticides, drugs, alcohols, plants, animal bites and sting.
    - Snake bite
    - Foreign body in ear, nose, throat and eyes
    - Injury
    - Haemorrhage
    - Burns
    - Frostbite
    - Fracture and dislocations
    - Heatstroke
    - Rabid animal bites
    - Drowning
    - Acute mountain sickness
    - Epistaxis

Unit 3: Patho-physiology **22 Hours**

- **Explain the pathophysiology of the following condition** **3 Hours**
    - Concepts of necrosis, inflammation, thrombosis, embolism, wound healing, shock, oedema, neoplasia, antigen and antibody reaction.

- **Musculo skeletal system** **2Hours**
    - Basic concepts of fractures, arthritics, oesteomyelitis, leprosy.

- **Cardiovascular System** **4 Hours**
    - Basic concepts of rheumatrid carditis, myocardial, infraction, hypertension, arteriosclerosis, heart failure, anemia, leukemia, hemophilia, idiopathic thrombocytopenic purpura (ITP).
    - Explain immune deficiency disorders.
    - Define hypersensitivity reactions.

- **Respiratory System** **2 Hours**
    - Basic concept of bronchitis, bronchial asthma, tuberculosis, COPD, Pneumonia, carcinoma lung.

- **Gastrointestinal System** **3 Hours**
    - Concepts of gastritis, peptic ulcer, TB intestine, appendicitis, carcinoma stomach, hepatitis, cirrhosis, cholecystitis and cholelithiasis.

- **Neurosensary System and Special Senses** **3 Hours**

- Concepts of meningitis, epilepsy, encephalitis, conjunctivitis, trachoma, retinoblastoma, xerophthalmia, acute otitis media and CSOM.

- **Renal electrolyte System** **2 Hours**
  - Renal failure, nephritis, nephrotic syndrome, renal stones, UTI.

- **Repoductive System and Endocrine System** **3 Hours**
  - DUB, abortions, ectopic pregnancy, benign enlarge prostate (BEP), carcinoma cervix.
  - Nodular goiter, diabetes mellitus.
  - Breast lump.

Teaching Learning Methods

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References:

1. Medical laboratory manuals for developing countries Monica Ceesbrough (ELBS), recent edition.
2. R. D. Vade mecum (1998) published by Royal Drug Limited.
3. Baker FJ.:*Introduction to medical laboratory technology*, ELBS.
4. Cheesbrough M.: *Medical laboratory manuals for developing countries*, Vol. I & II, ELBS, 1996.
5. Robins, Colran and Kumar: *Pathologic basis of Disease*, 7th Edition, Churchill Livingston, 2002.
6. Text books of First, aid. Recent edition.

Course Title	Biochemistry and Immunology	
First Year	First Semester	Course code BPH 101.3-BI
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Description:

The course has designed to impart the basic concepts and knowledge of Basic Sciences of Medicine particularly in Biochemistry and Immunology. The course aims to impart the basic mechanism for survival of living system along with basic laboratory skills in conducting chemical, biochemical and immunological tests.

Learning Objectives:

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

- Understand the basic knowledge of biochemistry and its applications in Medical Science especially in Public Health.
- Understand the role of non-living matters for development, growth and death of biological system.
- Understand the role of bio-molecule and their metabolism for survival of life
- Develop basic skills to conduct biochemical and Immunological laboratory tests.
- Understand the mechanism of developing diseases, prognosis and diagnosis.
- Analyze the problem developed during analysis, understanding and controlling disease.

Course Contents

Unit 1: Biochemistry **32 Hours**

- Definition, Scope and Application of Biochemistry in Public Health
- Basic Concepts of Acid and Base (Arrhenious Concept, Bronsted Lowery Concept, Lewis Concept), Salts- Definition and types.
- Water- Natural Water and its types, Properties of water (Physical, Chemical and Solvent Properties), Water Balance, Dehydration, Water Intoxication.
- Concept of pH and pH meter.
- Concepts of Buffer Solution (Definition, Types of buffers present in the body fluid and their significance)
- Carbohydrates- Definition, Classification, Structure (Open Chain, Closed Chain, Haworth Projection Structure), Monosaccharide, Oligosaccharide, Disaccharide, Polysaccharide, MPS, Physical and Chemical Properties of carbohydrates- Oxidation, Reduction, Dehydration, Reducing Properties, Ozone
- Formation- Glycoside, Amino Sugar, Deoxy Sugar.
- Digestion and Absorption of Carbohydrates, Lactose Intolerance, Glycolysis, Blood Glucose Regulation- by Kidney, Muscle, Liver, Hormone.

- Proteins- Definition, Classification (by Structure, Solubility, Nutritional Requirement), Structural Organization, Physical and Chemical Properties.
- Amino Acid- Definition, types (by Structure, Nutritional requirement, Metabolic Fate), Essential and Non-Essential Amino Acids and their structures.
- Lipid - Definition, Classification, Physical and Chemical Properties- (MP, Rancidity, Sap. Value, Acid Value, Iodine No.), Cholesterol and its significance in the body. Fatty Acids- Definition, Classification, Properties-MP, Halogenation, Dehydrogenation, Saponification, Importance of PUFA.
- Enzymes- Definition, Properties, Terminology- Holo-enzyme, Apo-enzyme, Co-enzymes, Co-factor, Prosthetic group, Active Site, Iso-enzyme, IUB Classification, Mechanism of their action, Factors affecting Enzymatic Reaction Rate, Application of Enzyme.
- Nucleic acid (DNA, RNA and their types, Watson and Crick Model of DNA).
- Mineral-Introduction, Source, RDA, Biochemical Functions and Clinical Significance of Macro and Micro Minerals i.e. Iron, Calcium, Phosphorus, Sodium, Potassium, Magnesium, Chlorine, Sulfur, Iodine, Fluorine, Mangnese, Cobalt, Copper, Zinc, Selenium.
- Vitamin-Introduction, Source, RDA, Biochemical Functions and Clinical Significance of Water Soluble and Fat Soluble Vitamin.

Unit 2: Immunology **16 Hours**

- Introduction to Immunology- Innate and Adoptive Immunity, Active and Passive immunity, Antigen- Complete and Incomplete Antigen, Antibodies and their types, Immunopathology.
- Defense Mechanism
  - First line defense mechanism
  - Second line - Cells and Organ Involved in Immune System -Lymphoid cells, Myeloid cells. Primary Lymphoid organs and Secondary lymphoid organs.
  - Third line Defense Mechanism of body-Cellular Immunity- T-cell dependent and T-cell independent, Antibody dependent and Antibody independent. Humoral Immunity-Antigen Presentation and Processing.
- Hypersensitivity Reactions and their types.
- Concept of vaccine and vaccination, type of vaccine, mechanism of vaccine
  - Concept and importance of cold chain
- Relation of immunity, immunology and disease
- Antigen and Antibody Reactions-Serological reactions, ELISA, RIA, Immuno fluorescence

Teaching Learning Methods

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

Reference

1. Lenninger, 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. Chatarjee MN., Shinde R. :Textbook of Medical Biochemistry, 5th Edition, Jaypee Brothers Medical Publisher (P) LTD, New Delhi,2002
4. Goldsby RA, Kinct TJ, Osborne BA, Kuby J :Immunology, 5th Edition, W.H. Freeman and Company, San Francisco, New York 2003
5. Satyanarayana U. Chakrapani U. : Biochemistry, 3rd edition, Book and Allied (P) Ltd, Calcutta, India, 2006
6. Chakraborty P. : A text book of Microbiology, 2nd Edition, New central Book agency (P) LTD, Calcutta, India,2003
7. Stryer, L.: Biochemistry, 4th Edition, W.H. Freeman and Company, San Francisco, 2000
8. Ivan Riot: Essential Immunology, ELBS- 9th Edition, 1999
9. Cheesebrough M. "District Laboratory Practice in Tropical Countries" Volume I and II, Cambridge low price Edition, 1998.
10. Mukherjee Kannai L. "Medical Laboratory Technology" Volume I, II and III. McGraw-Hill Publishing Company ltd.
11. Fuerst R. "Microbiology in health and disease" W. B. Saunder 1995.
12. Mackle and Cartney MC. "Practical Medical Microbiology" Churchill Livingston 1994.
13. Lyd Yard PM "Immunology"
14. Bailey & Scott's: Diagnostic Microbiology

Course Title	Microbiology, Parasitology, Bacteriology and Virology	
First Year	First Semester	Course code BPH 101.4-MPBV
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course description

The course aims to impart the basic concepts in general microbiology, parasitology, bacteriology, virology 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.

Course Objectives:

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

- To provide the basic concepts in microbiology, (bacteriology, virology, parasitology, mycology), and immunology and disease processes.
- Describe the concepts of important microbial diseases in communities (fungal, parasitic, bacterial, viral).
- Describe the lifecycle of common intestinal and blood parasites
- Provide the treatment prevention and control of parasitic diseases
- Describe concepts of host-parasite relationship, normal flora, opportunistic, nosocomial and pathogenic microorganisms.
- Describe the methods of sterilization
- Understand the mechanism and development of immunity.
- Describe the selection, collection and transportation, storage and processing of specimens.

Course Contents

Unit 1: Introduction of microbiology **5 Hours**

- Introduction to microbial world
- Classification of microbial diseases
- Introduction to community acquired microbial infections

Unit 2: Bacteriology **10 Hours**

- Scope and public health importance of bacteriology
- Morphology and Classification of bacteria.
- Normal bacterial flora on or in the body.
- Concept of opportunistic and pathogenic organisms.
- Bacterial physiology and its growth factors.
- Mechanism of infection.
- Spread of diseases - Endemic, epidemic and pandemic and laboratory infection.

- Morphology, mechanism of pathogenesis, laboratory diagnosis and prevention and control of some of the community concerned bacteria (Respiratory, genital and gastrointestinal diseases)
- Gram staining and AFB staining in identifying bacteria.

Unit 3: Parasitology **15 Hours**

- Scope and public health importance of parasites
- Classification of human parasite
- Describe the morphology, epidemiology, life-cycle, pathogenesis and pathogenicity, diagnosis and prevention and control measures of following parasites;
    - Protozoa – *Entamoeba histolytica, Giardia intestinalis, Plasmodium, Leishmania donovani*
    - Helminths – *Ascaris lumbricoides, Anchylostoma duodelals and N. americans, Enterobius vermicularis, Trichiuri strichiura, Taenia solium, Taenia saginata, Echinococcu sgranulosus and Hymenolepsis nana and Wouchereria bancrofti.*

Unit 5: Virology **8 Hours**

- Introduction and Classification of virus
- Replication of virus, Cultivation of viruses
- Introduction to viral diseases of public health concern (Influenza, Measles, RSV, Arbovinuses, Rotrovirus, Hepadna viruses, Corona viruses, Picorna virus, habdovirus, Adenovirus)
- Collection and preservation of viral specimen for laboratory study
- Prevention and control of viral diseases

Unit 6: Mycology **2 Hours**

- Introduction, classification and methods of identification of fungal disease of public concern – Dermatomycoses and Candidiasis.

Unit 7: Laboratory concept **8 Hours**

- Introduction of laboratory protocols, study of universal precaution and post exposure prophylaxis
- Principle of microscopy and study of different parts of light microscope
- Sterilization –Physical, chemical and radiation
- Method of disinfection and their importance

Teaching Learning Methods

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References

1. Cheesebrough M. "District Laboratory Practice in Tropical Countries" Volume I and II, Cambridge low Price Edition, 1998.
2. Fuerst R "Microbiology in health and disease" W.B. Saunder 1995.
3. Mackle and Cartney MC. "Practical Medical Microbiology" Churchill Livingston 1994.
4. Chatterjee, K. D. "Parasitology Protozoology and Helminthology" Chatterjee Medical Publishers, 12th edition, 2001.
5. Mukherjee, Kaanai L. "Medical Laboratory Technology" Volume I, II and III, Mcgraw-Hill Publishing company Limite.
6. Parajuli K. Laboratory Practical Parasitology" Vdharthy Pustak Bhandar
7. Parajuli K. Laboratory Practical Microbiology" Vdharthy Pustak Bhandar

Course Title	Medical Entomology and Rodentology	
First Year	First Semester	Course code BPH 101.5-MER
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course description

The course has designed to impart the basic concepts and knowledge on entomology, rodentology and insecticides.

Learning Objectives:

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

- Understand the basic concepts and acquire the basic knowledge of entomology.
- Describe the role of arthropods in public health.
- Describe the role of rodents in public health
- Describe the characteristics of different arthropods and rodents of medical importance and disease transmitted by them.
- Describe different control measures of arthropods and rodents.
- Describe the types, usability, problem of resistance and health hazards of insecticides and rodenticides.

Course Contents

Unit 1: Medical Entomology **32 Hours**

- **Introduction** **10 Hours**
  - Introduction to medical entomology
  - Introduction to medically important arthropods
  - General and outline classification of arthropods (with special reference to medical important groups)

- **Habit, habitant, external morphology and control measures;** **16 Hours**
  - Arachnids: Scorpions, spider, ticks, mites.
  - Non-dipterous insect: Lice, fleas, bugs, and cockroach.
  - Dipterous insects:
    - *Myasis* Producing flies: housefly
    - *Phlebotomine:* Sand flies
    - *Simulium*: Black flies
  - Mosquito (Life cycle and differences) - *Culicine, Anopheline* and *Ades*

- **Disease and health hazards:** **6 Hours**
  - Diseases and health hazards associated with arthropods
  - Different methods of controlling arthropods
  - Insecticides and their usability.
  - Insecticides - Problem of resistance, Hazards

Unit 2: Rodentology: **8 Hours**

- **Introduction** **4 Hours**
  - Introduction to rodent and rodentology
  - Introduction to medically important rodents
  - Classification of rodent (with special reference to medical important groups)

- **Disease and health hazards:** **4 Hours**
  - Disease and health hazards associated with rodents.
  - Different methods antirodent measures
  - Rodenticides and their usability.

Unit 3: Integrated control approach **8 Hours**

- Principle of control measure of arthropod and rodents
- Integrated control measures of arthropod and rodents
- Nepal vector born disease program (Objective and strategy)
- Public health importance, hazards and management of pesticides
- Coordination with line ministries; MoHP, MoA, Ministry of Environment

Teaching Learning Methods

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References:

1. Handbook on management of Pesticide Poisoning published by Plant Protection Division, Ministry of Agriculture
2. Implementation of integrated vector management, report of regional meeting, SEARO 2010
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.; Lavoipoerre, M.M.J.; Entomology for Students of Medicine. Fifth edition, Blackwell Scientific Publications 1978
6. Service SM. Lecturer notes on medical entomology. London, Blackwell Scientific, 1986
7. Jan A. Rozendaal. Vector control. WHO, Geneva, 1999

Course Title	Professional English	
First Year	First Semester	Course code BPH 101.6-PE
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course description

The course offers an opportunity to develop a basic understanding of context and scope of English in public health, including sentence structure, communication, and technical writing skill, speaking skill and time management. The student will learn different national and international declarations, research report, discoveries, and literature as significant forces influencing public health.

Course Objectives:

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

- Basic concepts about the technical English and student able to develop utilization of professional communication skills in public health discipline.
- Identify sentence (clause) and its types and transformation of sentences
- Communicate in different technical topics
- Develop reading skills, note making and summarizing from different passages
- Prepare short memoranda, write business letters, job application, seminar papers, and proposal writing

Course Contents

Unit 1: Review of Written English **8 Hours**

- Sentence structure (identification of sentence or its types and transformation of sentences) and clauses

Unit 2: Oral Communication **15 Hours**

- **Public Speaking:** Audience Analysis, Choosing the Subject, Preparation of Speech, Presentation, Use of various Aids, Launching Pad, Evaluation, How to overcome Stage fear and Class room practice

- **Public communication**: Preposition & noun phrases (noun, adjective and adverbs) and their use, verbal phrases, types of English. Elements of communication, 7cs of communication, types of communication, speaking and listening, non verbal communication, writing skills, body language, improvement of communication skills and class room practice.

- **Interview facing:** Preparation for the interview, attire, postures and gestures, right way of answering questions.

- Audience Analysis, Choosing the Subject, Preparation of Speech, Presentation, Use of various Aids, Launching Pad, Evaluation, How to overcome Stage fear.

Unit 3: Technical Writing Skill **10 Hours**

- Literature review, Article and summery, preparation of short memoranda (Importance-formats), health messages, business letters (Importance-purposes), paragraph writing (descriptive/narrative, argumentative, compare and contrast etc.), note taking and preparation of meeting minutes, job application, motivation letter, bio-data/curriculum vitae, description writing (Process, mechanism, place etc.), seminar papers, rapporteuring, proposal writing (Importance- type, formats), preparation of reports (Importance-types, formats), article's summary.

Unit 4: Reading skill **13 Hours**

- Comprehension questions and exercises (from prescribed passages- discovery, diseases, community and environment, healthy life styles, conferences, foundations of public health etc.), outlining or note taking, precise writing.

Unit 5: Time management **2 Hours**

- Importance of time, identifying time wasters, four chambers of time management, steps for proper management of time

Teaching Learning Methods

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References:

1. Eisenberg A.: Effective Technical Communication, McGraw-Hill Inc, 1982
2. Houp and Pearsall TE: Reporting Technical Information, Allyn and Bacon, Boston.
3. Narayanaswami VR: Strengthen Your Writing, Orient Longman, Madras.
4. Tickoo C. and Sasikumar J.: Writing with a Purpose, Oxford University Press, Bombay.
5. A Handbook of Pronunciation of English Words (with 90 minutes audio cassette).
6. Communication Skill in English
7. Oxford Advanced Learners' Dictionary of Current English.

Course Title	Practical Skill Development (Anatomy and Physiology)	
First Year	**First Semester**	**Course code: BPH 101.1-AP**
Credit Hour: 1	**Full Mark: 50**	**Pass Mark: 30**

Course description

PSD 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 human anatomy and physiology.

Details of PSD

Subject	Practical Hours	Content	Log or practical book
Anatomy and Physiology	**32**	- Identify, draw and labelled of different types of bones - draw and labelled of heart, kidney, liver, lungs, eye, ear, uterus and general body system - Draw and labelled all the body system - Demonstration of different parts of human body (Dummy)	Maintain
Total practical : 32 Hours			

Maximum 20 students could be sitting for effective practical in one event. But that is depends upon the practical room and setting.

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Practical Skill Development (Pathophysiology, First Aid and Safety)	
First Year	**First Semester**	**Course code: BPH 101.2-PFAS**
Credit Hour: 1	**Full Mark: 50**	**Pass Mark: 30**

Course description

PSD 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 pathophysiology, first aid and safety.

Details of PSD

Subject	Practical Hours	Content	Log or practical book
Patho-physiology, First Aid and Safety	**32**	- Identification different type of surgical instruments and materials - Measurement of temperature - Measurement of pulse - Measurement of blood pressure - Mouth to mouth respiration - Simulate CPR - Methods of use of different types of bandage in different types cut and fracture - Use of tourniquet - Use of splint - Management of epistaxis - Preparation of ORS - Emergency stature and process of stature movement	Maintain
Total practical : 32 Hours			

Maximum 20 students could be sitting for effective practical in one event. But that is depends upon the practical room and setting.

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Practical Skill Development (Biochemistry and Immunology)	
First Year	**First Semester**	**Course code: BPH 101.3-BI**
Credit Hour: 1	**Full Mark: 50**	**Pass Mark: 30**

Course description

PSD 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 biochemistry and immunology.

Details of PSD

Subject	Practical Hours	Content	Log or practical book
Biochemistry and Immunology	**32**	- Using pH paper and pH meter - Preparation of different types of solutions i.e. normal solution, molar solution, percentage solution - Estimation of serum glucose, protein and albumin using kit - Measurement of pH (solutions, buffers etc.) - Estimation of glucose, protein albumin etc in body fluids. - Color tests of carbohydrates, proteins and fats	Maintain
Total practical :	**32 Hours**		

Maximum 20 students could be sitting for effective practical in one event. But that is depends upon the practical room and setting.

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Practical Skill Development (Microbiology, Parasitology, Bacteriology and Virology)	
First Year	**First Semester**	**Course code: BPH 101.4-MPBV**
Credit Hour: 1	**Full Mark: 50**	**Pass Mark: 30**

Course description

PSD 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 microbiology, virology, parasitology and bacteriology.

Details of PSD

Subject	Practical Hours	Content	Log or practical book
Microbiology, Parasitology, Bacteriology and Virology	**32**	- 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 haemoglobin - Use of autoclave, hot air oven and chemicals (disinfection) - Preparation of slides (smears) and identification of ova, parasites, cyst trophozoites from stool specimen. - Performance of Gram staining and AFB staining and identify the bacteria.	Maintain
Total practical : 32 Hours			

Maximum 20 students could be sitting for effective practical in one event. But that is depends upon the practical room and setting.

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Practical Skill Development (Medical Entomology and Rodentology)	
First Year	**First Semester**	**Course code BPH 101.5-MER**
Credit Hour: 1	**Full Mark: 50**	**Pass Mark: 30**

Course description

PSD 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.

Details of PSD

Subject	Practical Hours	Content	Log or practical book
Medical Entomology and Rodentology	**32**	- Preparation for filed (Instrument, collection media) - One day concurrent field for observation and collection of different types of insects. - 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 report to department	Maintain
Total practical :	**32 Hours**		

Maximum 20 students could be sitting for effective practical in one event. But that is depends upon the practical room and setting.

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

First Year

Second Semester

Course Title	Introduction to Public Health	
First Year	Second Semester	Course code: BPH 102.1 IPH
Credit Hours: 3	Full Marks: 100	Pass Marks: 50

Course Description:

The course offers an opportunity to develop a holistic understanding of context and scope of public health, including philosophy, definition and historical development of public health in national and international context. The course attendant will learn the clear concept of health, disease, spectrum of health and disease, preventive health and levels of prevention. The course is expected to help students to understand the meanings of community health, community medicine and curative medicine, national and international public health problems, burden of problems as well as the effects of those problems on health. The course attendant will learn different national efforts and international declarations as significant forces influencing public health.

Learning Objectives:

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

- Explain the meaning of public health, its philosophy, scope and ethics.
- Identify the historical development of public health and ways.
- Demonstrate holistic understanding of health, disease and preventive health.
- Explore the current national and international public health problems and issues
- Explore national efforts and international declarations as significant forces influencing public health.

Course Contents

Unit 1: Introduction to Public Health **24 Hours**

- Concept, definition, philosophy and scope of public health **2 Hours**

- **Historical development of public health** **10 Hours**
  - Public health in the global context
    - The Pre-Christian period
    - The middle ages
    - The age of the black death
    - The Renaissance period
    - The 18th and 19th centuries (enlightenment period)
    - Modern age
  - Public health in Nepalese context.
    - Ancient and pre-unified period
    - After Unification and during Rana period
    - From 2007 and during Panchayat period
    - After 2047 BS

- **Concept of health and Diseases** **4 Hours**
    - Concept of health
    - Concept of diseases
    - Concept of being healthy
    - Spectrum of Health and Disease
    - Natural history of disease

- **Preventive health and levels of prevention** **6 Hours**
    - Concept of Prevention
    - Concept of Preventive Health
    - Level and scope of preventive health
        - Primordial Prevention
        - Primary Prevention
        - Secondary Prevention
        - Tertiary Prevention

- **Concept of community health, community medicine and clinical medicine 2 Hour**
    - Concept of Community Health
    - Concept of Community medicine
    - Concept of Clinical Medicine
    - Relation and difference between them

Unit 2: Situation and Efforts in Public Health **24 Hours**

- **Interdisciplinary Approach in Public Health** **6 Hours**
    - Epidemiological approach
    - Biostatistics Approach
    - Public Health Laboratory Science Approach
    - Sociological and Anthropological Approach
    - Cultural and Behavioral Approach
    - Environmental Health Approach
    - Veterinary Science Approach

- **National and International Public Health Problems** **6 Hours**
    - Current International Problems, Burden and Effects
    - Mental health, Psychiatry problems and Addictive Problems
    - Adolescents and reproductive health Problems
    - Major communicable and Non-communicable Diseases
    - Emerging Health Problems such as HIV and AIDS, and others
    - Re-emerging Health Problems such as Malaria and others
    - New mores and New Freedoms
    - Economically and Culturally Deprived Population

- **Public health problems and Issues in Nepal** **4 Hours**
  - Communicable Diseases (types, burden causes and effects)
  - Non-communicable Diseases (types, burden causes and effects)
  - Nutritional Deficiency Disorders (types, burden causes and effects)
  - Trauma and Injuries (types, burden causes and effects)

- **Significant Forces Influencing Public Health** **8 Hours**
  - Public Health in National Planning of Nepal
  - Public health programs in Nepal
  - Efforts on Health Awareness and Health Habits
  - Roles of Resolution of Selected International Conferences Related to Health
    - Alma Ata Declarations
    - ICPD (Cairo) Declarations
    - Beijing Conference Declarations
    - HABITAT 2nd (Istanbul, 1996) Declarations
    - SAARC Declarations
    - MDGs
    - Other Subsequent Health Related Declarations

Teaching Learning Methods

Teaching learning method of this course include didactic lectures, group work, Discussion in class room setting and paper presentation by students under direct guidance of course facilitator.

Evaluation

Internal Assessment in different form	20%
Final Examination	80%

References:

1. Brownson, RC, Baker, EA, Leet, TL, Gillespie, KN: *Evidence-Based Public Health.* Oxford University Press, 2003.
2. Clark, N.M., Weist, E.: *Mastering the new public health :American Journal of Public Health.* 90 (8). 1208-11, 2000.
3. Coughlin, SS, Soskolne, CL, Goodman, KW: *Case studies in public health ethics.* Washington, DC: American Public Health Association, 1997.
4. Dixit H: *Nepal's Quest for Health*, Educational Enterprises, Kathmandu, 2003.
5. Pathak RP and Giri RK: Introduction to public health, primary health care and community health development
6. Regmi, B: Fundamental development of public health, primary health care and community

7. Institute of Medicine: *The Future of the Public's Health in the 21st Century*. Washington, DC: National Academy Press, 2003.
8. Park JE and Park K: *Text book of preventive and social medicine*, recent edition.
9. Website of Nepal Public Health Association, 1991.
10. DoHS, Recent *Annual report. Department of health services*. Nepal.
11. Freudenberg, N., Eng, E., Flay, B., Parcel, G., Rogers, T., Wallerstein, N. Strengthening individual and community capacity to prevent disease and promote health: in search of relevant theories and principles: *Health Education Quarterly*. 22 (3), 290-306, 1995.
12. Friis, RH & Sellers, TA.: *Epidemiology for public health practice. 2nd edition* Gaithersburg, MD: Aspen Publication, 1999.
13. Institute of Medicine: *The Future of the Public's Health in the 21st Century*. Washington, DC: National Academy Press, 2003.
14. Lasker, R.D.: *Medicine and Public Health: the power of collaborationn*, New York, NY: The New York Academy of Medicine, 1997.
15. World Health Organization. *Alma Ata: primary health care*, WHO: Geneva, 1979
16. Oxford textbook of Public Health, 5th edition
17. Sudhir Ananda, *Public Health Ethics and Equity*.
18. Mahajan BK, *A textbook of Preventive and Social Medicine*, recent edition

Course Title	Basic Epidemiology	
First Year	Second Semester	Course code: BPH 102.2-BE
Credit Hours: 3	Full Marks: 100	Pass Marks: 50

Course Description

This course has been designed to understand the concepts of epidemiology; health promotion and disease prevention and control; application of various types of epidemiological study designs for research purposes and health-related events.

Learning Objectives

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

- Describe and apply epidemiological concepts and strategies in planning and implementing health programs.
- Define terminologies used in epidemiology.
- Describe and generate epidemiological information for disease prevention, control and health promotion activities including epidemics and outbreaks.
- Calculate epidemiological indices and apply these to manage and evaluate health programs.
- Describe different epidemiological study designs.
- Apply epidemiological skill on major public health problem for disease prevention and control.

Course Content

Unit 1: Meaning, Types, Scope and Application of Epidemiology 10 Hours

- Definition and concept of Epidemiology
- Historical development of Epidemiology
- Aims, scope, purpose, branch and use of Epidemiology
- Spectrum and determinants of health and disease.
- Mode of transmission of diseases
- Relationship between epidemiology and public health.
- Natural history and progress of the disease
- Epidemiological classification of diseases
    - Idea and need for classification
    - Principles of classification
    - International Classification of Disease (ICD)
- Distribution of Disease characteristics of;
    - Time,
    - Place and
    - Person

Unit 2: Terminology used in Epidemiology **4 Hours**

- Infections, communicable disease, case, host, agent, environment, carriers, vectors, reservoir, incubation period, endemic, epidemic, sporadic, pandemic, enzootic, exotic, zoonosis, epornithic, contamination, infestation, contagious disease, nosocomial infection, opportunistic infection, iatrogenic infection, surveillance, prevention, control, elimination, eradication, certification of eradication and screening

Unit 3. Measurements and calculation in epidemiology **10 Hours**

- Counts, rates, ratio, proportions, incidence, prevalence (point and period), odds ratio, relative risk, cumulative incidence, incidence density, attributable risk, secondary attack, likelihood ratio, inter relationship between cumulative incidence and incidence density and use of incidence and prevalence in disease control.
- Measurements of Burden of disease (DALY, HALE, QALY)

Unit 4. Association and causation **8 Hours**

- Concept and types of causation and associations
- Supernatural causation of diseases
- Wheel, multifactorial, web and pie models causation of disease
- Germ theory of causation
- Epidemiological triad
- Rothman principle and causation
- Synergistic causation of drug and disease, synergistic index
- Hills criteria of causation
- Establishing causal relationship
- Relation of cause and effect

Unit 5. Types of study design: - **16 Hours**

  - Observational study design
    - Descriptivestudy design
    - Analyticalstudy design and
  - Experimental study design

- **Descriptive study design:**
  - Case series, case report and cross- sectional study design
    - Theoretical foundation
    - Some model about descriptive study
    - Advantages and disadvantages of descriptive study

- **Analytical study design:**
  - Ecological,
  - cross- sectional analytical
  - case-control study, nested case control study design

- Theoretical foundation
- Selection of cases and control
- Calculation and interpretation of odds ratio in case control study
- Comparability of odds ratio and relative risk
- Matching and overmatching
- Advantages and disadvantages of case control study

  - Cohort Study
    - Theoretical foundation
    - Prospective and retrospective cohort study
    - Time related aspects of exposure and follow up period
    - Selection of comparison group in cohort study
    - Calculation and interpretation of risk ratio in cohort study
    - Advantages and disadvantages of cohort study

- **Experimental Study design:**
  - Concept and types of experimental study (Pre, quasi and true)
  - Trials: Randomized control trial (Clinical trial, phase trial, crossover and parallel design), field trials, community trial
  - Concept and types of blinding
  - Masking in interventional study
  - Advantages and disadvantages of interventional study

- Errors and bias in epidemiology
  - Definition and types of errors
  - Concept, definition of bias and chance, type of bias
  - Confounding
  - Management of confounding and error
    - randomization, restriction, stratification, mathematical modelling and matching
  - Precision
- Investigation of an outbreak/epidemic in a district situation and planning to manage it

Teaching learning methods

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

- Didactic lecture: mainly on the basic concepts, principles and theories
- Presentations and seminars: mainly on the events and issues of debate and diverse opinions
- Self learning: mainly on the issues, where further explanations are desired and materials are easily available for reading.

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References:

1. AB Joshi, Fundamentals of epidemiology vol I and II.
2. Beaglehole R, Bonita R, Kjellstrom T. Basic Epidemiology. World Health Organization, Geneva, 2002.
3. Gordis L. Epidemiology, Second Edition, WB Saunders Company, Aharcourt Health Sciences Company, Philadelphia, 2000.
4. Tandan M. and Thapa J., A Text book of Fundamentals of Basic Epidemiology. 2012.
5. Regmi B and Myia S: Principle and practice of fundamentals and clinical epidemiology
6. Park K. A text book of preventive and social medicine; Latestedition, Jabalpur: Banarasidas Bhanot Publishers.
7. Abraham M Lilianfield, David E Lilienfield "Foundation of Epidemiology", Oxford University Press.
8. Heninkens CH, Buring JE. Epidemiology in Medicine, Lippincott Williams and wilkins, a Wolters Kluwer Company: 1987.
9. MacMahon B, Trichopoulos D. Epidemiology: Principles and Methods, Second Edition. Boston: Little, Brown, 1996.
10. Mahajan BK. A Text Book of Preventive and Social Medicine
11. Principles of Epidemiology, 2nd Edition, and An Introduction to applied Epidemiology and Biostatistics. US Department of Health and Human Service, CDC, Atlanta Georgia.
12. Rothman KJ, Greenland S. Modern Epidemiology, 2ndEdition, Lippincott- Raven publishers: 1998.
13. Rothman KJ. Epidemiology: An Introduction. Oxford University Press, 2002

Course Title	Basic Food and Nutrition	
First Year	Second Semester	Course code: BPH 102.3-BFN
Credit Hours: 3	Full Marks: 100	Pass Marks: 50

Course Description

This course has been designed to impart knowledge on food and nutrition to the students. The course intends to impart knowledge and skills in understanding the relationship of food and nutrition and its importance for health. This is coupled with basics in assessing, planning and executing different interventions to overcome the problems related to food and nutrition at the community level.

Learning Objectives

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

- understand, define and describe the importance of food and nutrition
- understand basic concept of food and nutrition and its relation to health
- explore and address the socio-cultural factors of food and nutrition in relation to health promotion
- understand the basic concept of nutritive value in the food and consequences of deficiencies

Course contents

Unit 1: Introduction to food science and nutrition **8 Hours**

- Concept and importance of food and nutrition
- Nutrition as a public health science
- Classification and composition of food
- Digestion, absorption, metabolism and utilisation of nutrients: carbohydrates, proteins, fats, vitamins, minerals and water
- Nutritive value of food (including nutrient content in some common Nepalese local food)
- Food pyramid
- Macronutrients and its functions
- Micronutrients and its functions
- Clinical nutrition
- Microbiology in nutrition

Unit 2: Nutrition across the human life cycle **8 Hours**

- Nutrition requirement of infant, pre-school children, school children, pregnant and breastfeeding women, adolescents, adults and old aged
- Recommended dietary allowances, balanced diet and its importance for various age and sex groups
- Life course approach in nutrition promotion with focus on intergenerational effects of malnutrition

- Infection-malnutrition cycle
- Food based dietary guidelines (WHO and Nepal)
- Breastfeeding: Physiology of milk production, advantages of breastfeeding over artificial feeding
- Weaning, supplementary and complementary feeding practices

Unit 3: Nutrition deficiency disorders, diseases and prevention 10 Hours

- Protein energy malnutrition (PEM)
- Iron deficiency disorder
- Iodine deficiency disorders
- Vitamin A deficiency
- Zinc deficiency
- Other nutritional deficiency diseases
- Diet and chronic diseases: Coronary Heart Disease, Diabetes Mellitus, Cancer etc.
- Major nutrition problems (At Global and at National level)
- Food and nutrients supplementation: IFA, Vitamin A, Zinc, Vitamin D, Calcium, MN

Unit 4: Food safety and hygiene 17 Hours

- Food Production, Quality and Human Health
- Food processing, preparation, storage and consumption
- Effects of food processing and storage on nutritive value of foods
- Role of mycotoxin on nutrition and control measures
- Food fortification, adulteration – its causes and health effects
- Anti-nutritional factors
- Relationship between food and environment.
- Food contamination, adulteration and fortification
- Food borne diseases.
- Management of food hygiene
    - Domestic
    - Commercial
    - Institutional
- Milk Hygiene
    - Importance of milk and milk products.
    - Milk borne diseases
    - Management of milk
    - Dairy farm
    - Pasteurization
- Meat Hygiene
    - Importance of meat in health
    - Meat borne diseases.
    - Management of meat
    - Slaughterhouse and practices.

- Sanitation measures.
- Quality control of meat

Unit 5: Socio-cultural aspect of food and nutrition **5 Hours**

- Trans-cultural impact on food practices and behaviour
- Culture as an influencing factor of nutritional status – useful and harmful effects
- Socio-economic aspects of food production distribution and consumption
- Food beliefs/values taboos and changing trends of food and dietary practices
- Availability, preparation, cooking and consumption practices of nutrient rich indigenous foods in Nepal

Teaching learning methods

- Classroom lectures
- Group work and presentation
- Concurrent field visits to observe nutrition rehabilitation centers

Final examination

Internal assessment 20%
Final assessment 80%

References

1. Clinical dietetic and nutrition - FPA Nepal.
2. Child Nutrition and Health –Dr. Ramesh Kanta Adhikari and Miriam Kranz
3. Food and Nutrition for developing countries
4. Human nutrition - Bejamin T. Borton, Wills R. Foster
5. Text book of physiology - Gauyton
6. Text book of Social and preventive medicine - K. Park
7. Nutrition in Developing Countries – Maurice King. Oxford University Press
8. Gartaula RP. Text book of medical sociology and anthropology and medical anthropology, RECIDIN/Nepal, Kathmandu.

Course Title	Biostatistics and Computer Application	
First Year	Second Semester	Course code : BPH 102.4-BCA
Credit Hours: 3	Full Marks: 100	Pass Marks : 50

Course description

This course will develop the student's skills on the basic statistics used in public health research. Understand the key concepts on descriptive statistics analytical statistics process, identify, use of appropriate descriptive statistics and interpret the data.

Course Objectives

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

- Describe and apply statistical concepts and knowledge in planning, implementing and monitoring public health programmes
- 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
- Describe and generate information on the health status of a community.
- Able to use different search engine on web
- Handle some database, reference software
- Handle some statistical software

Course Contents

Unit 1: Introduction **4 Hours**

- Definition of common statistical terms
- Definition of statistics and bio-statistics and its types, scope, function, limitations and characteristics.
- Uses and application of bio-statistics in public health research and medical sciences.

Unit 2: Descriptive Statistics **20 Hours**

- Basic concept of variables, types of variables (discrete and continuous variables), scales of measurement
- Data Collection
  - Collection and recording of statistical information on public health and its related fields from primary and secondary sources
- Presentation of statistical data
  - Classification and Tabulation of data: frequency distribution and different types of tables (one way, two way and manifold tables).
  - Diagrammatic and graphic presentation:
  - 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.

- Measures of Central Tendency
  - Mean, Median & Mode and identify the ideal averages, requisites and its merits and demerits
  - Analysis of outliers
  - Different partition values (quartiles, deciles& percentiles) and its uses.
- Measures of dispersion (variability)
  - Range, quartile deviation, mean deviation, standard deviation, 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 **8 Hours**

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

Unit 4: Probability Distribution **16 Hours**

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

Teaching learning method

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References

1. Blair R Clifford, Taylor Richard A, Biostatistics for health sciences, Pearson education inc, Prentice Hall, Indian edition Dorling Kindersley India Pvt Ltd, 2009
2. 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 sciencess, Wiley India(P) Ltd, New Delhi, 2007
6. Panta PP. Biostatistics, Vidyarthi Pustak Bhandar, Bhotahity, Kathmandu, 2011

7. Mahajan BK "Method in Biostatistics" Smt. Indu Mahajan Pusa Road, New Delhi, latest

Course Title	Pharmacy, Pharmacology and Toxicology	
First Year	Second Semester	Course code: BPH 102.5-PPT
Credit Hours: 3	Full Marks: 100	Pass Marks: 50

Course Description

This course has been designed to impart knowledge on impart the basic concept and knowledge on Pharmacy, Pharmacology and Toxicology to the students. The course intends to impart knowledge and skills in understanding the relationship of pharmacy, pharmacology and toxicology with its importance for community health.

Learning Objectives

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

- Describe pharmacy and pharmacological related terminologies and their actions, side effect of important drugs.
- Identify the various adverse effects of commonly used drugs and enumerate the name of emergency drugs, their procedure of administration and mode of actions.
- Understand the basic concepts and acquire the basic knowledge of quality assurance.
- Understand the basic concepts and acquire the basic knowledge of toxicology and its implication in public health.
- Understand diversity of toxicology and its application in understanding and controlling problems related to toxic substance in industry, agriculture and medicine.

Course contents

Unit 1: Pharmacy and Pharmacology **24 Hours**

- **Introduction:** **8 Hours**
  - Introduction about pharmacy, pharmacology, clinical pharmacology and pharmaco-epidemiology
  - Terminologies used in Pharmacology, Sources of drugs and Dosage forms (classification with examples)
  - Route of drug administration (Factors governing choice of route, Classification (topical and systemic), Advantages and disadvantages of various routes.)
  - Principles of pharmacokinetics, pharmacodynamics and pharmacogenetics
  - Concepts on adverse drug reaction, side effects, adherence and drug interactions, compliance,
  - Classification of drugs (according to DDA)

- **General Concepts of antimicrobial therapy:** **6 Hours**
  - Introduction to antibiotics, antimicrobials and chemotherapy,

- Classification of antibiotics, problems encountered during antimicrobial therapy (AMA),choice of AMA, rationality of combined use of antimicrobials, Disadvantage of antimicrobial combinations,
- Rationale use of antimicrobial drugs, monitoring of antimicrobial therapy.
- Brief account of Penicillin, Cephalosporin, sulfonamides and trimethoprim, Macrolide, Tetracycline, and Fluroquinolone antibiotics (include Mechanism of action, Pharmacokinetic of drugs, side effects, indication and contraindication of each drug in very brief)

- **Public health aspects of pharmacy** **6 Hours**
  - Concept and list of essential drug of government of Nepal
  - 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.)
  - Concept of Drug Policy, Drug Act and Standard Treatment Guidelines.
  - Community pharmacy and role of pharmacy in PHC

- **Quality Assurance:** **4 Hours**
  - Importance of date of manufacture and expiry date of drugs, Handling and drug storage
  - Concepts of GMP, GLP and GCP in public health. .
  - Vaccination and importance in maintaining cold chain system

Unit 2: Toxicology **24 Hours**

- **Introduction to Toxicology:** **2 Hours**
  - Definition, scope and application of toxicology
  - Terminologies used in toxicology

- **Basic Principles of Toxicity:** **4 Hours**
  - Toxic and toxicity, Toxicity value, Acute and Chronic toxicity, Toxicity categories-EPA, WHO, Personal protection equipments
  - Factors that influence toxicity and route of exposure.

- **Diversity of Toxicology** **18 Hours**
  - **Occupational (industrial) toxicology**
    - Definition, different permissible values, implication in human health, determination of acceptable exposure limit

  - **Environmental toxicology**
    - Concept of Ecotoxicology and fate of pathogen; evolution of pathogen resistance, antimicrobial resistance, fate of pollutants

- Risk assessment and management (Definition, scaling of risk, steps in determining of risk, components and risk management framework)
- Route of exposure
- Environmental toxicity management

- **Pesticide Pollution**
  - Introduction, pesticide use in public health, major pesticides use in Nepal, effect of different group of pesticides (including, organochlorines, organophosphates and carbamates,)
  - Impact of pesticides on human health, impact of pesticides on environment

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

- **Clinical toxicology**
  - Definition, initial approach to poisoned patients, clinical effects and management of poisoning (along with specific antidotes) due to OP, OC, pyrethrins, paracetamol, barbiturates, opiates, TCA, iron, Datura.

- **Cholinergic and anticholinergic drugs relating to poisoning:**
  - Introduction, classification, mechanism of action, fate of drugs, side effects, indications and contraindications of acetylcholine, pilocarpine, phyostigmine, neostigmine, ecothiophate DFP, Atropine and Hyoscine.

Teaching Learning Methods

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References:

1. Katzung BG: *Basic and Clinical Pharmacology*, 7th Edition, Lange, Medical Books. McGraw-Hill, New York, 1998.
2. Tripathi K.D. Essentials of medical pharmacology
3. Lippincotts, Williamy and Wilking, Pharmacology
4. WHO list of Essential drugs, WHO, 1977
5. Standard Treatment Guidelines published by DDA, 1998.

6. WHO Drug Formulary, 2002
7. Documents related to drug act and national drug policy published by DDA.
8. Department of Drug Administration: www. dda.gov.np
9. World Health Organization: www.who.int
10. Amdur MO, Doull J, Klaassen CD: Casarett and Doull's Toxicology: The Basic Science of Poisons, 5th ed. McGraw Hill: New York; 1996.
11. Olson KR, Anderson IB, Clark RF et al.: Poisoning and Drug Overdose, 3rd ed. Appleton & Lange: Stamford, Connecticut, 1999.
12. Wall Chart on the Management of Commonly Encountered Poisons in Nepal, 2000
13. Handbook on management of Pesticide Poisoning published by Plant Protection Division, Ministry of Agriculture

Course Title	Preparation of Term Paper (Introduction to Public Health)	
First Year	**Second Semester**	**Course code: TPP 102.1-IPH**
Credit Hour: 1	**Full Mark: 50**	**Pass Mark: 30**

Course description

TPP is a course designed to provide required practical skills for the students 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 IPH

Details of PSD

Subject	Practical Hour	Content	Log or practical book
Introduction to public health	**32**	- Individually term paper presentation, discussion of different topic in public health related area, international scenario - Preparation and submission of report to department	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Preparation of Term Paper (Basic Epidemiology)	
First Year	Second Semester	Course code: TPP 102.2-BE
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

TPP is a course designed to provide required practical skills for the students 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 epidemiology.

Details of PSD

Subject	Practical Hour	Content	Log or practical book
Basic Epidemiology	32	- At least one public health related program pick up from DoHS annual report and critically review the past three years epidemiological data of any component individually - Prepare methodology, analyze and presentation of data from tabular, bar, pie, histogram, pictogram and presentation in college - Preparation and submission of report to department	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Practical Skill Development (Basic Food and Nutrition	
First Year	Second Semester	Course code: PSD 102.3-BFN
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Food and Nutrition

Course description

PSD is a course designed to provide required practical skills for the students 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 food and nutrition.

Details of PSD

Subject	Practical Hour	Content	Log or practical book
Basic food and Nutrition	32	- Anthropometric measurement (BMI, Weight for age, Height for Age, Weight for Height of your friends/family member/neighbor) and its interpretation. - Development of partograph and growth monitoring chart - Demonstration on preparation of sarbottam pitho. - Preservation procedure of different types of food in home setting - Collection of food of containing carbohydrate, protein, fat, vitamin and report about its calorie - Preparation of daily recommended food supply for you and compare with actual feeding habit and recommended yourself and prepare report - One day concurrent field visits to observe nutrition rehabilitation centers - Preparation and submission of report to department	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Practical Skill Development (Biostatistics and Computer Application)	
First Year	Second Semester	Course code: PSD 102.4-BCA
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

PSD is a course designed to provide required practical skills for the students 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 computer application.

Details of PSD

Subject	Practical Hour	Content	Log or practical book
Computer application	32	**Introduction to Computers** o Introduction to Computers (definition, characteristics & uses), o Introduction to Microsoft (system, application & utility); o Introduction to Data Processing: Elements, Activities. o Understanding about the information related to public health **Windows** o Concept of Operating System, Introduction to Windows, features o Windows explorer; Control panel, Setting wallpaper, screen saver, background. o Creating a folder, Compressing/ Zipping files (WinZip), Virus & Antivirus **Web Resources & Security** o Introduction, Using Search engines o Basic Security Concepts: threats to Users o Virus & Worms, Cookies, Spam, Firewall. o Internet & browse: introduction, scope, uses, importance and applications, different system of internet browsing, Major site of health On-line research for PH	Maintain

		Data management o Introduction to DOS: Important terms in DOS (program, file, directory, names, volume label, disk drive & its name (DOS prompt). o Comparison of CLI & GUI. DOS file system, path & path names, Internal Commands o Brief account about different types of data base management **Word processors** o Introduction to word processing, features of word processors, working with formatted documents, Shortcut keys. Finding & replacing text, o 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 o Word processors: Creating tables, Proofing text (Spell check, Auto correct), Inserting pictures, Mail merging, Printing. **Spread sheets** o 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, o Spread sheets: Functions (SUM, AVERAGE, COUNT, MAX, MIN, IF), Data Filtering. o Introduction to charts, types of charts, Renaming sheet, Printing worksheet. **Presentation** o Introduction, Use of presentation software, Presentation tips, components of slide, templates and wizards, using template, choosing an auto layout, using outlines, adding	

		subheadings, 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.	
Total practical : 32 Hours			

Maximum 20 students could be sitting for effective practical in one event. But that is depends upon the practical room and setting.

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Preparation of Term Paper (Pharmacy, Pharmacology and Toxicology)	
First Year	**Second Semester**	**Course code: TPP 102.5-TPP**
Credit Hour: 1	**Full Mark: 50**	**Pass Mark: 30**

Course description

TPP is a course designed to provide required practical skills for the students 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 pharmacy, pharmacology and toxicology.

Details of TPP

Subject	Practical Hour	Content	Log or practical book
Pharmacy, pharmacology and toxicology	32	- Demonstration to practical aspects on handling of prescription - Demonstration on basic equipment and instrument in pharmacology - One day concurrent visit to forensic toxicology laboratories and field visit report (group report) - One day concurrent observation visit to Pharmacology industries (Environmental status, drug storage, pollution management and drug formation process) and field visit report (group report) - Report on clinically important toxic substances - Preparation and submission of report to department	Maintain
Total practical : 32 Hours			

Maximum 20 students could be sitting for effective practical in one event. But that is depends upon the practical room and setting.

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Second Year

Third Semester

Course Title	Environmental Health and Ecosystem	
Second Year	Third Semester	Course Code - BPH 203.1-EHE
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Description

This course aims to analyze the structure and the function of the ecosystem (environment) on which people depend for their lives and livelihood. The course provides a framework for ecosystem (environment) approach to human health and the development of effective policies and interventions to improve human health through environmental management. This also helps to analyze the basic environmental health problems of Nepal and identify appropriate measures to address them.

Learning Objectives

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

- Understand the concept of ecosystem approaches and the environmental determination of human health.
- Describe and develop the ecosystem approach for assessing causal linkages between human health and the natural and anthropogenic environments.
- Apply ecosystem management approaches to improve human health with particular emphasis on the use of participatory methods.
- Know the existing states of the environmental problems and strategy of management
- Disseminate the concept of improving human health through better ecosystem (environment) management that respects humans development imperatives;
- Know the major types of pollution and their effects on human health with special reference to Nepal

Course Content

Unit 1: Introduction **6 Hours**

- Concept of environment
- Dynamic of environment
- Components of environment
    - Atmosphere
    - Hydrosphere
    - Lithosphere
    - Biosphere

- Ecosystem
    - Concept of ecosystem
    - Structure of an ecosystem, overview of basic types
    - Flow of energy and biogeochemical cycles

- Diversity, productivity and stability in an ecosystem

Unit 2: Ecosystem Approaches to Human Health **4 Hours**

- Concept of ecosystem approach
- Health as a generic and holistic concept.
- Ecosystem approach to human health and diseases
  - Agro ecosystem
  - Links between agro ecosystem and human health

Unit 3: Common Environmental Problems in context of Nepal **6 Hours**

- Deforestation
- Soil erosion
- River siltation
- Flooding and drought
- Desertification
- Acid rain
- Loss of Biodiversity
- Different types of pollution and pollutants
- Global warming and green house gases

Unit 4: Air Pollution and Human Health **6 Hours**

- Concept, types and sources of air-pollution
- Effects of air-pollution on human health
- Effects of air-pollution on Ozone layer and global climate
- Controlling air-pollution

Unit 5: Water Pollution and Human Health **9 Hours**

- Human health and water quality
- Types and sources of water-pollution
- Effects of water-pollution on human health
- Water and water related diseases
- Water purification measures (Small and large scale)
- Water quality and purification in emergency/disaster condition
- WHO standard and prevention and control measures.
- Control of water Pollution

Unit 6: Solid and Hazardous Wastes and Human Health **6 Hours**

- Concept of waste, type, sources
- Effects of hazardous and non hazardous waste
- Resource recovery from solid waste
- Solid waste disposal and management

Unit 7: Noise Pollution and Human Health **3 Hours**

- Concept and sources of noise-pollution
- Effects of noise-pollution on human health
- Controlling air-pollution

Unit 8: Pesticides and Human Health **4 Hours**

- Pesticides: types and effect on health
- Pesticides pollution
- Alternative method of pest control
- Pesticide regulation

Unit 9: Shelter and Human Health **4 Hours**

- Definition of shelter
- Detrimental effect of poor housing
- Principles of housing and health
- Standards of housing
- Concept of healthy cities and healthy villages

Teaching learning methods

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

- Didactic lecture: mainly on the basic concepts, principles and theories
- Presentations and seminars: mainly on the events and issues of debate and diverse opinions
- Self learning: mainly on the issues, where further explanations are desired and materials are easily available for reading.

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References

1. Beacon Press, MOPE (2000), State of the Environment of Nepal, Kathmandu: Ministry of Pollution and Environmental Nepal.
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7. Miller, Tyler (1988), Environmental Science. USA: Wadsworth Inc.

8. MOPE/ICIMOD/UNEP (2001), Nepal: State of the Environment Report 2001. Kathmandu: UNEP /ICIMOD
9. Ojha. S (BS 2046) Watawarniyaswasthya ra sarsaphai, Kathmandu: Health Learning, Material Centre.
10. Park, JE and Park K. Textbook of Preventive and Social Medicine, India: Recent edition
11. Salvato, Environmental Sanitation.
12. Steel. Water supply and sewage.
13. Sloan, WM (1993) Site selection for new hazardous waste management facilities. WHO.
14. WHO (1992), Health Organization "WHO commission on health and environment" Report of the panel on food and agriculture. Geneva: WHO
15. Wagner, EG and Lanoix JN Excreta disposal for rural areas and small comities. WHO.
16. WHO (1996), Climate Change and Human Health, WHO/WMO/UNEP.
17. WHO (1996), Guideline for Drinking Water Quality: Health Criteria and other Supporting Information, WHO.
18. WHO (1996), Biodiversity, Biotechnology and Sustainable Development in Health and Agriculture: Emerging Connection. WHO
19. WHO (1999), HACCP (Hazard Analysis and Critical Control Point) Principle and Practice.
20. WHO (1999), Monitoring Ambient Air Quality for Health Impact Assessment, WHO.
21. WHO (1991), Surface Water Drainage for Low-income Communities, WHI/UNEP
22. WHO, Solid waste disposal in South East Asia.
23. Whyte, A. (1986), Guidelines for planning community participations in water supple and sanitation project. WHO

Course Title	Family Health, Maternal and Child Health	
Second Year	Third Semester	Course code: BPH 203.2-FHMCH
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Description:

The course is designed and to impart the basic knowledge and understanding on family health, maternal and child health, parenthood, which will provide a better perspective in, managing public health care system in keeping with the knowledge of family and maternal and child health and their components.

Learning Objectives:

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

- Understand the importance and the implication of family and reproductive health.
- Conceptualized the problems and solutions of maternal and child health.
- Conceptualized the social issues and right of child
- Understand about the parenthood and theirs application in healthy family development

Course Contents

Unit 1: Concept of Family Health **6 Hours**

- Definition of family, family health, family environment, family support, scope of family health and types of family.
- Describe holistic model of family health biomedical, bio-psycho- social models and their determinants
- Functions of family and its importance in health, illness, recovery and rehabilitation
- Major indication of family health and reproductive health.

Unit 2: Reproductive Health **4 Hours**

- Describe the concept of reproductive health, its determinants
- Overview of components of reproductive health
- Explain the major problems related to reproductive health
- Describe the approaches to address the reproductive health problems

Unit 3: Maternal health **12 Hours**

- Concept and Scope of maternal health
- Safe motherhood and its components
- Overview of maternal health status
- Safe motherhood components
- Major conditions causing morbidity and mortality
- Socio-economic, educational and cultural factors affecting maternal morbidity and mortality and utilization of material care.

- Components of maternal health care inducing ANC, INC, PNC, prevention of teenage marriage and pregnancy, PMTCT and safe motherhood, maternity waiting home safe birthing practices, safe medical abortion.
- Concept, types and process of maternal and perinatal death review
- Concept of infertility, factors causing infertility and sub-fertility
- Concept of In-vitro fertilization (IVF), impact of IVF in family in context of Nepal
- Educating women in health related materials.
- Maternal cycle, maternal and child health problem in Nepal
- Concept, objectives, strategy, activity and challenges of *Aama Surakshya Karakram* in Nepal

Unit 4: Child Health **18 Hours**

- Define children, Overview of child health status
- Major causes of infants and child morbidity and mortality in Nepal.
- Socio-economic, educational and cultural factors affecting child rearing practices and child health care activities in Nepal.
- Components of child health care –GOBI-FFF
- Baby friendly hospitals, breast feeding, and complementary feeding.
- Prioritizing the child health needs in modern condition
- Principles of screening and child health surveillance.
- Community based management of child health
    - EPI, NID, CDD, ARI, childhood nutrition problems, vaccines preventable childhood disease and parasitic diseases.
    - CB-IMCI, CBNCP
- UN convention on the Rights of Child, concern of child in constitution and Nepalese law
- Recommendations from World Summit for Children Cairo Habitat II
- Social aspects of Child
    - Child abuse, child prostitution, child trafficking, street children, child labour, child protection and child rights and child laws.
    - Effect of conflicting situation, urbanization and refuge situation of children.
    - Major causes of accident and handicapped conditions in Nepal, prevention, rehabilitation, CBR vs. Institutionalization.
    - Legal issues regarding handicapped persons.
    - Physical. sexual, drug and alcohol abuse among children

Unit 5: Responsible Parenthood **8 Hours**

- Family health needs and determinants of healthy family
- Functional and dysfunctional families and its effect on health
- Meaning and concept of responsible parenthood
- Responsible parenthood practices and its effect on family health
- Men as fathers, family and community members-

- Economic providers, father's responsibility in childcare, woman right, family support, health promotion and rehabilitation.
- Motivating father for family health personal hygiene, sexual hygiene, birth spacing.
- Men's supportive role during and after wife's pregnancy.

Teaching learning methods

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

Evaluation criteria

Internal assessment in different forms 20%
Final examination 80%

Recommended books, Manual and Journals

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. Improving access to quality care in family planning" Family and productive health WHO, Geneva, 1996.
4. JE Park and K. park, A textbook of preventive and social medicine.
5. JHPIEGO/Nepal, reference manual certificate nursing program, community health nursing II, family planning unit.
6. Katal, A public health manual.
7. Misra BD, Art Introduction to the study of population "South Asia Publishers Pvt. Ltd. New Delhi 2nd edition 1991.
8. National adolescent health and development strategy 200. FHD/DHS/MOH.
9. "National maternity care guidelines for Nepal" HMGUNICEF.
10. UNICEF/Nepal, Children and Women in Nepal – A situation analysis 1996.
11. Wallace HW, Giri K. "health care of women and children in developing countries 1990.

Course Title	Population Studies and Family Planning	
Second Year	Third Semester	Course code: BPH 203.3-PSFP
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

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 demographic 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.

Course Objectives

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

- Understand the basic demographic techniques for population and health analysis
- Understand the structure, characteristics, and components of population and population growth
- Familiarize students with population dynamics of Nepal
- Identify the impact of population growth onpublic health, ecology and development
- Know the different method of family planning and provide counselling to the clients for the adoption of appropriate family planning scheme

Course Contents

Unit 1: Introduction **4 Hours**

- Introduction, and Importance of population health studies and medical demography in public health
- Application of medical demography in Public Health System, Program and Research
- Sources of population data and importance of population census, vital registration system, sample surveys, health institution data, national and international publications
- Demographic Health Surveys in Nepal

Unit 2: Population Theories, policy and programs **6 Hours**

- Early thinking on Population issues
- Malthusian doctrine and Neo-Malthusians, Cornucopias concepts
- Demographic transition theory
- Essential requisite of population policy
- Recent goal, target, strategies and population program of Nepal
- Analysis the population policy of Nepal and its comments

Unit 3: Population Structure, Characteristics and Components **6 Hours**

- Population pyramid, types of population pyramid, trend analysis and comparison of population pyramid between developing and developed countries
- Importance of age and sex structure,
- Define literacy rate, sex ratio and dependency ratio
- Concept of young and old age population and aging of population, decaying of population

Unit 4: Components of population growth **8 Hours**

- **Fertility**
  - Measure of fertility and its importance
    - Concept of fertility and its different measures such as; Crude birth rate, specific rates and total fertility rate
  - Other measures of fertility and some concepts
    - Child women ratio and its use
    - Standardized birth rates and its purpose
    - Replacement level of fertility
    - Population momentum
    - Factors affecting fertility
    - Baby boom and baby bust syndrome
  - Measures of reproduction
    - Concepts and importance of gross and net reproduction rate

- **Mortality**
  - Measure of mortality
    - Concepts and importance
    - Crude and specific rates, infant and maternal mortality ratio
    - Other measures of mortality; Neonatal and post neonatal mortality, foetal, prenatal and perinatal mortality rates
    - Standardized death rate and its importance
  - Factors affecting mortality

- **Migration**
  - Some measures of migration
  - Concepts, some useful terms, types of migration
  - Estimation of life time and intercensal migration
  - Factors affecting migration

Unit 5: Population Projections **4 Hours**

- Importance of population projection, difference between projection and estimation
- Population projection by balancing equation
- Population growth in Nepal and the growth pattern in the world
- Mathematical methods of population projection and their appropriate use and constraint
  - Arithmetical model

- Geometric model
- Exponential model

Unit 6: Medical Demography **3 Hours**

- Concept, definition and importance of medical demography
- Different measure and calculation of medical demography; Population ratio with different levels of health worker (Public health, doctor, nurse, paramedics), Doctor nurse ratio, hospital bed ratio, population coverage by different health institution
- Concept of medical record and its importance

Unit 7: Population, Ecology and Development **5 Hours**

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

Unit 8: Faming Planning **12 Hours**

- Definition and concept of FP.
- Describe types, their mode of action, benefit, side effects, indication and contraindication of contraceptive devices and recent trends in contraception
- Discuss factors associated with use and non use of contraceptives
- Importance of counselling, counselling of eligible couples and follow-up.
- Calculation of indicators that are commonly used in FP
- Analyze the importance of FP programme in health (social. economic, environment, quality of life etc.)
- Discuss the role of men in family planning
- Population problems and need for family planning in Nepal.
- Explain the approaches to conduct the FP programmes
- Planning, organizing, managing and evaluation FP activities including health education with special emphasis on the Nepalese.

Teaching learning method

Class room teaching with the use of overhead projector and LCD, group discussion, group work, individual and group presentations and discussion in class room setting

Evaluation

Internal assessment in different forms	20%
Final examination	80%

References

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.
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
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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. Nepal Demographic and Health Survey
14. Reproductive Health, WHO
15. Family Planning Policy and Strategy
16. Reproductive Health Protocol

Course Title	Fundamentals of Health Education	
Second Year	Third Semester	Course code: BPH 203.4-FHE
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course description

The course has been designed to impart fundamental concepts and knowledge in health education activities of health service organizations. The graduates will be able to appreciate and apply the theories and principles of educational health to deal with practical problems encountered in real life and situation at community level

Course Objectives:

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

- Appreciate the significance of health education, in preventive, promotive, curative and rehabilitative ends.
- Understand the history, meaning, scope and theories of health promotion and education.
- Apply the theories and principles of health behavioral sciences in the process of health education.
- Identify, select and utilize suitable health education tools, methods and media for successful implementation of health services program.

Course Contents

Unit 1: Introduction to Health Education and health promotion 12 Hours

- Definition and critical analysis of various definitions given by; DB Nuswander, C. E. Turner, RE Grant, LW Green, WHO scientific group, SOPHE/APPHER and CW Stewart.
- Concepts, definition, objectives and strategies of health promotions.
- Aims, purposes, principles and scope of health education in relation to health promotion.
- International perspective in Health Promotion and health education: Ottawa Charter, Jakarta declaration SEARO charter on health development and the role of international and national organizations: International Union for health promotion and education (IUHPE).
- Role of health Education Specialists.
- Various approaches in Health education:
    - Impersonal Propagandist approach
    - Pedagogy vs andragogy approach (Paula Fereire).
    - Behavioural change approach (PRECEDE Model)
    - Child to Child approach
- Distinguishing between education and propaganda.
- Role of health education/health promotion in primary health care/and health development in the concept of health promotion in 21st century.

Unit 2: Theories and modalities for behavior change **16 Hours**

- Appraise of meaning, definition, principles and approaches of learning and its application in health Education.
- Meaning, definition and determinants of perception and its significance in health education.
- Meaning and definition of motivation, motivates and drives and theories of motivation by Abraham Maslow, Rosenstock, Kurt Lewin. Bunchman and Kelly.
- Concepts, meaning and definition of human behavior.
    - Levels of human behaviour cognitive, affective and psychomotor and their relationship with the educational process.
    - Concept and principle of behavioural changes and the changes process in health education.
- E. M. Rogers Adoption Process and its application in the selection of health education and media.
- Lewins' three phases: unfreezing, moving and refreezing theory and its application to health Education.
- Meaning, elements and types of communication, its communication and principles of effective communication.
- Theories and principles of interpersonal and mass communication.

Unit 3: Health Education Methods and Media **20 Hours**

- Appraisal **of various methods of health education such as:**
    - Individual methods: Counselling interview.
    - Group methods: Demonstration, group discussion, buzzes session, field trip, workshop, symposium, mini-lecture, brainstorming, interview forum, role play.
    - Mass methods: Exhibition, advertisement, film show public addressing system, speeches, miking, radio broadcasting, and television telecast.
- Criteria for the selection and use of appropriate method of health education.
- Various types of health education media, its advantages and disadvantages including the process of its preparation;
    - Audio- radio programme, songs, stories
    - Visual - poster flash, cards flip chart, hand puppets, hand bill, pamphlets, slides film strip hoardings, banners, model
    - Audio and visual - film, video, television.

- Preparation and use of selected health education media in classroom and field setting: poster, flashcard flip chart, hand puppets, models, handbills, pamphlet, slide song video film.
- Preparation of lesson plan, and classroom teaching.

Teaching learning methods

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

- Didactic lecture: mainly on the basic concepts, principles and theories
- Presentations and seminars: mainly on the events and issues of debate and diverse opinions
- Self learning: mainly on the issues, where further explanations are desired and materials are easily available for reading.

Evaluation

Internal assessment in different forms 20%
Final examination 80%

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1. Anderson, C.L., School Health or Practice.
2. American Academy of Padediatric, School of Health Politics, report of the committee on School health.
3. Amar, DS "Learning by Perception": word health Forum, Vo. 13 No. 4 1992.
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5. Fodor, JTET AL., health Instruction theory and application.
6. Gunarantne, VTH "health for all by the year 200, The role of Health Education" International Journal of Health Education, No. L. Jan –March 980.
7. Gulley, HE "Discussion Conference and Group Process" Holt. Rinehart and Winston, Inc. USA 1996.
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10. Park, JE and Park K. "Textbook of social and Preventive Medicine" 15th education. 1994.
11. Pradhanaga YP " Vidyalaya Swastya RA Swasthya Karya Kartaharu"
12. Ramachandaran, L and Dharmalinyam, T., "Text book of health Education" New Delhi, Vikas Publishing House, Pvt Ltd. 1983.
13. Shrestha DB and Pradhananga YP "Samudaya Swasthya Shikshyakp Rooprekha" Kathmandu 1995.
14. Sharma,Sita; Behavioral Sciences, HLMX 1997.
15. Serchan LB. Binddyalaya Swastya shikshya Karyakaram.

Course Title	Primary Health Care and International Health (PHCIH)	
Second Year	Third Semester	Course Code : 203.5-PHCIH
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course description

The course offers an opportunity to develop a holistic understanding of international health, its functions and scope. The course attendants will learn the principles of Primary Health Care, the course is expected to help the students to understand and internalize international health and public health transition facilitating the integration of health sector with other sectors.

Course objectives

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

- Historical background and development, principles, and strategies of primary health care (PHC)
- Application of primary health care and health services in Nepal
- Global health issues and effects of globalization on public health system
- Global health initiatives, especially Alma Ata deceleration and MDGs
- Analyze comprehensive primary health care and selective primary health care
- Critically analyze the health system of different countries

Course Contents

Unit 1: Primary Health Care (PHC) 24 Hours

- **Alma-Ata Conference on Primary Health Care**
  - Concept of Primary Health Care
  - Declaration of Alma-Ata Conference
  - The twenty-two recommendations of the Alms Ata Conference.
  - Basic Components of Primary Health Care
  - Principles and strategies of Primary Health Care
  - Critically analyze the Comprehensive and Selective Primary Health Care (PHC)
  - Overview of operational aspects of PHC
  - Role of the District Public Health Office in meeting Basic Health Needs.
  - Health Care Concepts and Challenges
  - Challenges and obstacles to PHC: selective PHC, cost recovery of health services, Structural adjustment programs and investing in health care.

- **Revitalization of PHC**
  - Concept and importance of revitalization of PHC
  - New challenges of revitalization of PHC in Nepal
  - Approach of health protection, community based health insurance and urban health
  - Free health services and essential health care service in Nepal

Unit 2: International Health **24 Hours**

- **Introduction of international Health** **12 Hours**
  - Concept and evolution of global health/International Health
  - Globalization and its effects on health and health system
  - Major collaborative efforts in international health.
  - Rolesand contributions of
    - Multi-lateral agencies (WHO, UNICEF, UNFPA,UNDP, Would Bank, ADB, SAARC)
    - Bilateral Partners **(**USAID, GIZ, DFID, SDC)
    - Other health-related international organizations in health promotion and disease prevention programs in Nepal.

- **Current Global Health Issues** **12 Hours**
  - Health Indicators of selected countries (2 with HDI high and 2 with HDI low and 2 from South East Asian region (One high HDI and one low HDI) and their critical analysis.
    - Comparison in Mortality Measures (Infant mortality, childhood mortality and maternal mortality and life expectancies), disability and other Global Disease burden and risk factor
  - International Health Regulation (IHR) policy
  - Cross border disease like HIV AIDS, Malaria, polio, TB, Swine flu, Bird flu etc and their impact in health system
  - Global Health Issues; Bioterrorism, World Bank, IMF, Trade Related Intellectual Property Rights and Health

Teaching learning methods

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

- Didactic lecture: mainly on the basic concepts, principles and theories
- Presentations and seminars: mainly on the events and issues of debate and diverse opinions
- Self learning: mainly on the issues, where further explanations are desired and materials are easily available for reading.

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References

1. Rosemary McMahon, Elizabeth Barton &Maurice Piot. “On Being In-charge: A guide to management in Primary Health Care” 2nd Edition, WHO, 1992.
2. Thapa J, Tandan M., A Text book of Primary Health Care and International Health. 2012.

3. Kenneth Blanchard & Spencer Johnson. “The One Minute Manager” 2008.
4. Dixit H. “Quest for Health” 2nd Edition, Educational Enterprise, 2003.
5. Regmi, B: Fundamental development of public health, primary health care and community health, 2012
6. Michael Seear. “An Introduction to International Health” Canadian Scholars’ Press Inc.,2007.
7. “The Family planning manager's handbook, basic skills and tools for managing family planning programs” editors, James A. Wolff, Linda J. Suttenfield, Susanna C. Binzen,1991.
8. WHO. “Policy Papers on Health Nepal” WHO & MoHP/GoN/Nepal, 2007.
9. Pradhananga YP. “Health and Health services in Nepal”.
10. Gill Walt. “Health Policy: An Introduction to Process and Power” Zed Books, 1994.
11. WHO. “Reports of Alma-Ata Conference on Primary Health Care” Vol.1-6, 1978.
12. Relevant materials and national and international publications on the topics of course contents.

Course Title	Community Health Organization and Development	
Second Year	Third Semester	Course code: BPH 203.6-CHOD
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Description

The course offers an opportunity to develop a holistic understanding of community, organization and management. Student could able about the pattern of theoretical and conceptual knowledge to bring changes in the health of community through participation. The course is expected to internalize the dynamics of community development facilitating the integration of health sector with other sectors.

Learning objectives

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

- Understanding of group formation, community organization and community development
- Apply the process, principles and strategies of community participation in health and community development in the context of Nepal
- Student could able about the pattern of theoretical and conceptual knowledge to bring changes in the health of community participation

Course content

Unit 1: Community **6 Hours**

- Concept, definition, nature, elements, characteristics and types of community
- Structure, process and expectations of community
- Some hypotheses about community life
- Formation process of community
- Differences between community and society

Unit 2: Community Health Development **16 Hours**

- Concept, definition, types of development and goals of community development
- Different theory of community development
- Process of community empowerment
- Different aspects of health development [Economic, Political, Social, legal]
- Relation of development with community health
- Cross cutting issues of CHD
- Techniques of community development and their application in public health programs:
  - External agent technique
  - Multiple agent technique
  - Internal resource mobilization technique
- Concept of citizen charter of health institution, importance and implication
- Key actors and factors in the community health care system
- Community based primary health care development

- Challenging & health care reform
- Feature of community development in Nepal and their application in health programs:
- Core functions, roles and areas of work of community health development in the health-care system
- List the skills and role needed to be a community health development worker
- Concept of Multilateral, Bilateral, INGO, NGO, CBO and local group
- List out the Multilaterals, Bilaterals, INGOs, NGOs working in community health development
- Immerging concept of community development
  - Decentralization- concept, definition, importance and decentralization of health service in community level, participation and challenges
  - Cooperative -Introduction, definition, and strategies of Cooperative
    - Cooperative approach of community development
    - Cooperative approach of health security, community support, and participation
  - Livelihood- Concept, definition and process of livelihood and their effect of health and maintenance
  - Sustainable development
    - Concept, definition and importance of sustainable, sustainable development,
    - Approaches of sustainability
    - Factor of sustainability to community organization, development programme and their challenges
    - Rio+20 declares health key to sustainable development

Unit 3: Community Organization 4 Hours

- Concept, function, importance of community organization
- Principles of community organization
- Formation process of community organization and its component
- Application of community organization in community health program
- Community-based organizations: the intersection of social capital in context of rural and contemporary urban society

Unit 4: Community Participation in Community Health Service 12 Hours

- Introduction, objectives and importance of community participation (CP) with special reference to health service delivery and utilization
  - Levels of CP: compliance, collaboration and local control
  - Model of CP: Four model of CP in PHC revitalization
    - Voluntary or government
    - Infrastructure and service equality
    - Wide spread community participation
    - CP in fullest sense
  - Forms and process of CP in health programs
  - Participation of communities in health service delivery and utilization process:

- Participation in community resources identification phase
- Participation in community health needs identification phase
- Participation in planning health program phase
- Participation in health program phase
- Participation in health program implementation phase
- Participation in health program monitoring and assessment phase

- Enabling process for community participation
  - Process of conducting a successful meeting
  - Process of decision making in a group situation
  - Process of conducting a discussion in a meeting
  - Process of community based resource identification
- Barriers of community participation
  - Lack of information
  - Insecurity
  - Injustice and inequalities
  - Lack of transparency
  - Geographical constraints
  - Other social and psychological factor
- Techniques of assessing the community problem and prioritization
- Techniques of involving a community in planning, implementing and evaluation health program activities

Unit 5: Group Dynamic and Leadership **10 Hours**

- Concept and definition groups
- Natural and planned formation of groups
- Concept of group dynamics
- Stages of growth group formation
  - Individual oriented stage
  - Emotional status and conflict
  - Consolidation phase
  - Cohesion or Cohesiveness
- Group Roles
  - Positive roles
  - Group-building roles
  - Group maintenance roles
  - Group task roles
  - Negative roles or blocking roles
- Group problems and their effects on community health programs
  - Apathy or non participation
  - Conflict
  - Inadequate decision making and hip pocket decision.
  - Hidden agenda

- Blundering methods
- Cash of interest
- Inadequate of leadership

- Concept and process of decision making in groups
- Conflict and conflict resolution
  - Concept, definition, types, effects of conflict in community health services
  - Method and process of conflict resolution
- Leader and leadership
  - Concept of leader
  - Types of leaders and leadership
  - Importance of leadership
  - Leadership roles of community leader in community health program
  - The Community health leader as a change agent, and case manager

Teaching Learning Methods

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

Recommended Books:

1. Hale C. Shrestha IB, Bhattacharya A "Community Diagnosis" HLMC 1997.
2. Lal Ramavadar. "Community Development: Principles practice and Problems", Bookland Pvt Ltd.
3. Oakley, Peter "Community involvement in health development an examination of the critical issues" WHO, Geneva. 1989.
4. Pradhananga Y. P. " Samudaya Vikashma Swastha Pakshya"
5. Pradhan, Hari Bhakta. A Text book of Health Education" Educational Enterprises, Kathmandu.
6. Regmi, B,: Fundamental development of public health, primary health care and community health, 2012
7. Ramachandran, L and Dharmaligam, T "Text book of health Education," Viskash Publishing House Pvt Ltd. 1983.
8. Ross. M. G. Community organization " Harper and Row, 1967.
9. Shrestha and Pradhanaga" Samudaya Swasthya Shikshykao Rooprekha", Kathmandu Institute of Medicine, 1986.
10. Cartright D and Zander A " Group Dynamic"
11. K Park. "Text book of preventive and social medicine." recent edition.

Course Title	Practical Skill Development (Environmental Health and Ecosystem)	
Second Year	Third Semester	Course code: PSD 203.1-EHE
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

PSD is a course designed to deliver practical skills for the students to do necessary lab demonstration. Students will observe the lab and field based demonstration, 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.

Details of PSD

Subject	Practical Hour	Content	Log or practical book
Environment health and Ecosystem	**32**	- Demonstration of water purification in small scale in laboratory setting - Lab test of water quality by using reagent (Turbidity, inorganic, organic pollutant, coliform) - Test of hardness and softness of water - Mechanism of Alam, chlorine in water purification - BOD measurement of water - Process of air quality test - Demonstration to public health and sanitation laboratory in college or special anywhere setting - Concurrent observation field visit of water purification in large scale - Concurrent field visit of dumping site (study of waste management process and environmental effects) - Preparation and submission of all related visit, lab, report to department - Community habitual in water purification and waste management report (in group)	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Family Health Exercise (Family Health, Maternal and Child Health)	
Second Year	Third Semester	Course code: FHE 203.2-FHMCH
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course Description

FHE is a course designed to equip the students with practical skills required to visit the community in a real life situation. Students will go to families and interact with the members to identify different family level issues, health problems, and environmental problems, special social and service related issues affecting the health of family. Students will also identify special cases in the family like children under five years, pregnant or lactating mother, senior citizens, family members with mental illness and members suffering from the diseases of public health importance. These cases will be termed as index case. Students will collect detailed information like socio-demographic information, anthropometric data, BMI, food intake and calculation of total energy/calorie values, health service access etc about the index case.

(*If there is more than one index case, all of the cases should be studied. If there is no index case in the family visited, student will identify another index household)*

Learning Objectives

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

- Go to the families in the community and collect the family record
- Identify the socio-demographic characteristic of the family
- Gather information about common health problems and important issues affecting women's and child's health
- Integrate food and nutrition concerns in the family level
- Know the environmental health issues in the community
- Assess the health knowledge, attitude and practice of the family
- Identify the index cases in the family
- Obtain detail information about the selected index case

Course Contents

Unit 1. Introduction to Family Health Exercise **10 Hours**

- Concept of family health exercise
- Meaning and types of family
- Taking family records, making family tree
- Data on economic condition
- Taking environmental data:
    - Detailed information on housing condition, create household map
    - General sanitation: hygiene, source of drinking water, excreta disposal, latrine condition, solid waste disposal, rearing of domestic animals

- Make necessary recommendation
- Social habits and customs: personal cleanliness, sleeping habit, passing leisure time, gender related issue, food taboos, social and religious customs related to health, addictions like alcohol/smoking/drug
- Health knowledge of the family: common diseases, personal hygiene, infant and young child feeding, care of pregnant/elderly, immunization, contraception and family planning, attitude towards modern/traditional medicine
- Identification of index case: children under five years, elderly, pregnant, lactating mother, diseased member
- Collection of detailed information of the index case

Unit 2. Executive field survey **8 Hours**

Unit 3. Data entry and report writing **14 Hours**

Teaching Learning Methods

Lectures, group discussions, library study assignments, home assignments, and field trips. Students will be assigned a household in the selected community where they will visit and collect the information.

Evaluation

The evaluation will be done based on;

Instrument and proposal	10%
Field work	10%
College presentation	25%
Report writing	25%
Viva	30%

Reference

1. Child Nutrition and Health – Ramesh Kanta Adhikari and Miriam Kranz
2. Human nutrition - Bejamin T. Borton, Wills R. Foster
3. Park JE and Park K: Text book of preventive and social medicine, latest edition
4. DoHS/HoHP. Annual report. Department of health services. Nepal.
5. Dixit H: The Quest for Health, Educational Enterprises, Kathmandu, latest edition.
6. K.S. Negi., Biostatistics. AITBS publisher, India 2008.
7. Panta PP. Biostatistics, Vidyarthi Pustak Bhandar, Bhotahity, Kathmandu, 2011
8. Wayne W. Daniel. Biostatistics A foundation for analysis in the health sciences, Wiley India (P) Ltd, New Delhi, 2007
9. Anthropology; RECID/Nepal, Kathmandu
10. Gartaula, RP (1998): Therapy pattern of Conventional medicine; RECID/Nepal, Kathmandu
11. Gartaula, RP (2008): Textbook of Medical Sociology and Medical Anthropology; RECID/Nepal, Kathmandu

Course Title	Term Paper Preparation (Population Studies and Family Planning)	
Second Year	**Third Semester**	**Course Code: TPP 203.3-PSFP**
Credit Hour: 1	**Full Mark: 50**	**Pass Mark: 30**

Course description

TPP is a course designed to deliver practical skills for the students to do necessary lab demonstration. Students will observe the lab and field based demonstration, 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 population studies and family planning.

Details of TPP

Subject	Practical Hour	Content	Log or practical book
Population studies and family planning	**32**	- Demonstration of family planning devices and mechanism of action - Group discussion and presentation on national demographic health survey analysis - Individual term paper presentation in population and family planning issues - Preparation and submission of report to department	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Term Paper Preparation (Primary Health Care and International Health)	
Second Year	Third Semester	Course code TPP 203.4-PHCIH
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

TPP is a course designed to deliver practical skills for the students to do necessary lab demonstration. Students will observe the lab and field based demonstration, 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 PHC and international health.

Details of TPP

Subject	Practical Hour	Content	Log or practical book
Primary health care and international health	**32**	- One day concurrent field visits to observe nearest health facilities for analysis in response to principle, component/element and strategy and revitalization of PHC component and service availability - Preparation and submission of report to department - Critically appraisal international scenario and health porgramme and system of any one country/Bilateral organization/Multi lateral organization of the world and critically establish relation with national health system of Nepal (4 to 5 person in each group) and presentation in class	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Term Paper Preparation (Community Health Organization and Development	
Second Year	**Third Semester**	**Course code: TPP 203.5-CHOD**
Credit Hour: 1	**Full Mark: 50**	**Pass Mark: 30**

Course description

TPP is a course designed to deliver practical skills for the students to do necessary lab demonstration. Students will observe the lab and field based demonstration, 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 community health organization and development.

Details of TPP

Subject	Practical Hour	Content	Log or practical book
Community health development and organization	**32**	- Prepare the report of any CBOs/Mother group/other group/NGO for community development and positive change in community and health - Preparation and submission of report to department - Need to submission of means of verification. Evidence of study organization - Report in either text/video form	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Second Year

Fourth Semester

Course Title	Medical Sociology and Anthropology	
Second Year	Fourth Semester	Course code: BPH 204.1-MSA
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Description

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

Learning objectives

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

- Sociological and anthropological concept applied to public health.
- The holistic cross-cultural approach in planning, execution, monitoring and evaluation of health programmes
- Historical development of society and health care practices
- Ethno-medicine, socio-cultural patterns, socialization, indigenous and alternative medical care practices
- Provider-consumer relationship at their work settings

Course Contents

Unit1: Sociology **6 Hours**

- Common terminologies: Sociology, Ethnicity, Mores, Folk Ways, Social System, Social Control, Social Disorganization, Social Problems, Acculturation, Enculturation, Socialization, Cooperation, Accommodation, Assimilation, Conflict, Modernization, Westernization, Sanskrtisation, Ethnomedicine, Ethnopsychiatry, Value, Beliefs, Perception, Knowledge, Attitude, Behavior, Custom, Habit, Self-Medication, Organization.
- Historical development of society
- Typological subject matter of sociology
- Relationship of sociology with anthropology, psychology, public health and health education
- Sociological contributions in public health

Unit 2: Anthropology **4 Hours**

- Introduction, concept and scope of Anthropology
- The sub-division of Anthropology
- The holistic approach
- Anthropological contributions in Public Health

Unit 3: Concept of Social Processes **6 Hours**

- Meaning, definition, characteristics, agent/agencies and stage of socialization.
- Meaning, definition, characteristics, factors favoring assimilation
- Introduction and characteristics of social conflict
- Introduction, definition, characteristics, types and basic function of social institution like marriage, family, kinship system
- Religious, political economical and social institutions and their contribution on health development
- Social change and cultural change
    - Introduction, definition, characteristics of social change and cultural change
    - Factors of socio-cultural change
    - Process or mechanism of socio-cultural change
    - Consequences of social and cultural change

Unit 4: Medical Sociology/Anthropology **4 Hours**

- Introduction to medical sociology/anthropology
- The present status of medical sociology/anthropology
- Criteria and contributions of sociology/anthropology to public health8
- Difference between illness, sickness and diseases
- Stages of illness
    - The symptom experience stage
    - Assumption of sick role stage
    - The medical care contact stage
    - The dependent / patient role stage
    - The recovery of rehabilitation stage

Unit 5: Interpersonal Relationship (Provider-Consumer/user Relationship) **3 Hours**

- Meaning and significance of inter-personal/provider-consumer/user relationship
- Talcott parsons model of the doctor – patient relationships applied to public health
- The Szasz – Hollander model applied to public health
- Communication pattern between professional and indigenous health care practices

Unit 6: Culture and Health **5 Hours**

- Concept, meaning and definition of culture
- Characteristics and elements of culture
- Cultural Practices and its relation to Health
- Personalistic and naturalistic health care system
- Practice of family/self-medication in Nepal
- Role of indigenous healers and alternative medications in Nepal

Unit 7: Health politics **4 Hours**

- **Concepts of Health and politics**
  - Health, politics and health politics
  - Politics with health executive and government
  - Organ of government
  - Relationship between health and politics
  - Political determinants of health policy

- **Legislative aspects of health** **4 Hours**
  - Concept about legislative body, function and formation process of structure
  - Political decisions and their effects on health policy formation
  - Role of health advocacy and lobbying in health policy and Act formation
  - Legislative procedure related to health Act development

- **Political aspects of executive health** **4 Hours**
  - Health related political role and functions of the executive
  - Organogram of executive health structure
    - Executive decision-making in health sector
    - The decision making style
    - Executive decision and their effect on health policy formation and program implementation
    - Political commitment and health service

- **Political Issues in Health** **2 Hours**
  - Business, propaganda and public health
  - Political instability, war and their effect on health of public and health service system
  - The structural adjustment program and their effect on public health

Unit 8: Health Law and Act **6 Hours**

- Concept about judicial health
- Structure and level of judicial body
- Importance of health jurisprudence and law in public health aspects
- Brief about law, Body of monitoring of law
- Brief discussion about the Health service Act 2053, Local governance and decentralization Act
- Brief account of Act and Law related to
  - Health behavior modification through legal measures and challenges
  - Control of contra health products
  - Control of health hazards through health laws and regulation
  - Legal protection against the threats to physical
  - Mental and social health of public

- Health law and preventive public health
- Epidemics and health laws

- Implementation strategy of health law for providing of social justice and challenges

Teaching learning methods

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References

1. Acts and Regulation of Nepal
2. Bhatia and Bhatia: Psychology
3. Constitution of Nepal
4. Dixit, H (1999): Quest for Health, Educational Book Enterprises, Kathmandu
5. Foster, George, M., Anderson, B.R., (1978); Medical Anthropology, Alfred A. Knopt, New York
6. Freeman, E. Howard, Levine, Sol, and Reeder G. Leo edited (1979): Hand book of Medical Sociology; Third Edition, Prentice-Hall, Inc. Englewood Cliffs, New Jersey
7. Gartoulla, RP (1998): An Introduction to Medical Sociology and Medical Anthropology; RECID/Nepal, Kathmandu
8. Pandit, RP. A text bok of medical sociology and anthropology, 2013
9. Gartoulla, RP (1998): Therapy pattern of Conventional medicine; RECID/Nepal, Kathmandu
10. Gartaula, RP (2008): Textbook of Medical Sociology and Medical Anthropology;
11. RECID/Nepal, Kathmandu
12. Ginsberg, M (1967): Sociology, Oxford University Press, London
13. Hoebel E.A. And Frost, E.L. (1979): Cultural and Social Anthropology, Tata McGraw-Hill
14. Publishing Company Ltd, New Delhi
15. Mechanic, D. (1968): Medical Sociology: A selective view, New York, The Free press
16. JK Park: Preventive and Social Medicine, Banaridas, India, Recent edition
17. Warner D (1995): Life and Death of PHC, Mexico
18. Warner, D. Health care and human dignity. Contact, Special series No.3.98.100.(1980).

Course Title	Applied Environmental and Occupational Health	
Second Year	Fourth Semester	Course Code - BPH 204.2-AEOH
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Description

This course provides a broad perspective on human environment interaction, human impact on the degradation of resources base and its consequences on human health. This course specifically aims to describe management of excreta, analysis of environmental hazards, governmental policy and law and emerging global environmental health problems. Along with occupational health issues and hazards also be studied.

Learning Objectives

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

- Develop general understanding of human impacts on the degradation of resource base consequently affecting human health.
- Inter-relate the casual linkages between environmental pollutants and human health.
- Acquire the necessary knowledge on the fundamentals of occupational health, diseases and safety measures.
- Develop general understanding of the its excreta, environmental hazards on human health and its management.

Course Content

Unit 1: Healthcare waste management **5 Hours**

- Nature and types of healthcare waste
- Health hazard from healthcare waste
- Management of healthcare waste in public and private health facilities
- National guideline of management of health care waste

Unit 2: Hazards and risk analysis **10 Hours**

- Concept
- Emphasis is place on hazard identification,
- Exposure assessment
- Risk characterization
- Regulatory aspects of risk assessment in the promulgation of environmental standards
- Analysis of risk of burden of environmental hazards
- Major environmental accident in and out of Nepal and its epidemiology
- Global experiences of environmental problem and threat to Nepal
- Environmental monitoring and evaluation
- Risk management and communicating risks

- Communication and early information to minimize the health risk

Unit 3: Environmental impact assessment **5 Hours**

- Concept and definition of Environmental impact assessment and institutional impact assessment
- Process of EIA, IIA
- Methods for quantifying environmental health impacts
- Environmental burden of disease Series (EBD Series)

Unit 4: WASH program **4 Hours**

- Concept of WASH, objective, components and activities
- Central level WASH structure
- Global and national situational analysis of sanitation and drinking water
- National strategy of sanitation (2012 -2017)
- Role of CBOs, community people, family, individual in WASH
- Sanitation context in the Nepal – MDGs, local regulations, and best practice

Unit 5: Human excreta **4 Hours**

- Concept, health risk, and management of human excreta
- Analysis of risk of infection of excreta, vulnerability assessment in context of community
- Concept of open defecation free declaration
- Situation of open defecation in Nepal and its health impact
- Strategies and activities of ODF
- Access of toilet
- Characteristics of proper use of toilet

Unit 6: Environmental health policy and law of Nepal **4 Hours**

- National environmental health laws, policies, regulations, and statutes in the context of public health
- Environmental health policy and law of Nepal

Unit 7: Occupational health and safety **16 Hours**

- Introduction (concept, definition, and scope)
- Historical development of Occupational Health
- Principles of Occupational Health and Safety
- Occupational health Problems and hazards
- Occupational Health safety and prevention
- Industrial health, its situation in Nepalese context and safety
- Concept of ergonomics
- Stress at Work
- Legal aspects of occupational health and safety (Labour Act, and compensation Act)

Teaching learning methods

Multiple methods will be used to acquire the above mentioned specific objectives;
Teaching learning methods of this course include didactic lectures, seminar, group work, and presentations review papers discussion in class room setting.

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References

1. Elliot D, (2004) Energy, Society and Environment Taylor and Francis e-library
2. Asthana DK, Asthana M (1998) Environment Problems and Solutions: S Chand and
3. James A Listori, Fadi M Doumani: Environmental Health, Bridging the Gaps
4. Subedi N., Occupational Health and Safety in Nepal. 2012.
5. CCH, Australia. (2000). *Planning Occupational Safety and Health*. 5th edn. Sydney: CCH, Australia.
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7. Poudel R. Bastolla S. and Pahari D., A text book of Occupational Health and safety.2068
8. Guarnieri, M. (1992). Landmarks in the History of Safety. *Journal of Safety Research*, 23(3), 151–8.
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10. Haddon, W. (Jr.) (1967). The Prevention of Accidents, Chapter 33 in *Textbook of Preventive Medicine* (Clark and MacMahon (eds)), Boston, Mass.: Little Brown.
11. Heinrich, H. (1959). *Industrial Accident Prevention*, 4th ed. New York: McGraw-Hill Company, Inc.
12. Holt, A. St. J. (1998). *Principles of Health and Safety at Work*. 2nd ed. Wigston Leicestershire: IOSH.
13. ILO Convention 155, Recommendation 164. *Occupational Health and Safety and the Working Environment*. Geneva: ILO

Course Title	Applied Epidemiology	
Second Year	Fourth Semester	Course code BPH 204.3-AE
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Description

This course will give the epidemiological research perspective of various infectious and non infectious diseases. The course also aims to impart skills and techniques to evaluate, assess and examine different interventions, surveillances and monitoring programs in the field of public health.

Learning Objectives

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

- Describe the applied epidemiology of infectious, non-infectious disease and health problems commonly prevalent in Nepal.
- Understand and describe the application of epidemiological principles and methods in prevention and control of communicable and non- communicable diseases
- Apply burden of disease concept to plan, organize and manage health programs
- Conduct field epidemiological studies

Course Content

Unit 1: Epidemiological features of infectious diseases prevalent in Nepal 30 Hours

- **Viral Infections**
  - Chickenpox, Measles, Mumps, Rubella, Herpes Zoster, Herpes Simplex, Influenza, Common cold, Poliomyelitis, Rotavirus and other viral gastro-enteritis, viral hepatitis, Japanese encephalitis, etc.
  - Rickettsial diseases and chlamydial infections
  - Epidemic typhus, endemic typhus, trachoma, etc.

- **Bacterial infections**
  - Streptococcal infections, meningococcal infection, staphylococcal infections, diphtheria, whooping cough, typhoid, and para-typhoid fevers, dysentery, cholera, tetanus, tuberculosis, STDs of bacterial etiology, food poisoning of bacterial etiology, including bacillus cereus, salmonelloses, staphylococcal and various E. coli trains of importance.

- **Fungal infections**
  - Dermatophytosis, candidiasis, aspergillosis.

- **Helminth infestations**
  - Filaria, infestation by hookworms, roundworm, strongyloides, toxocara and visceral larva migrans, taenia saginata and solium hymenolepis nana and dimunita, diphyllobothrium latum, echninococcus granulosus and hydatid cyst infestations, trematodes and their infestations.

- **Protozoal infections**
  - Malaria, leishmanisais, trichomoniasis, toxoplasmosis, pneumocystics carinni infection, amboebiasis, giardiasis, kala-azar,

- **Zoonotic diseases**
  - Rabies, bovine tuberculosis, brucellosis, echinococcosis, Bird flu, swine flu
  - Area of collaboration between veterinary and public health services.

- **Contagious diseases**
  - HIV, STIs, Hepatitis B, Leprosy, scabies

- **Miscellaneous**
  - Snakebite, scorpion bites.

Unit 2: Applied epidemiology of non-communicable disease and health problems commonly prevalent in Nepal **14 Hours**

- **Multi-factorial Determinants**
  - Identification of problems encountered in investigations with respect non- communicable diseases and health problems commonly prevalent in Nepal.

- **Non-communicable diseases**
  - Multifactorial determinants, growing nature of problems, and methods of analyzing information to determine etiology of non-communicable diseases;
    - Road Traffic Accidents**,**
    - Diabetes,
    - Cardiovascular Disease,
    - Chronic Obstructive Respiratory Disease,
    - Cancer,
    - Drug Abuse
  - **Nutritional deficiencies:** Malnutrition, PEM (Kwashiokar, Marasmus), Night Blindness, Xerophthalmia, Rickets, Osteomalacia, Beriberi, iodine deficiency disorders and Anaemia

Unit 3: Field epidemiology **4 Hours**

- Concept and principle of field epidemiology
- Field techniques
  - Development of test instruments
  - Methods of collecting information
  - Interview techniques and tools
  - Observation: concept and observation checklist

- Secondary data analysis

Teaching Learning Methods

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References

1. MoHP/DoHS [Nepal]. Annual Report.
2. DOHS, Epidemiology and Disease Control Division. Control of Communicable DiseaseManual 2003.
3. Regmi B and Myia S: Principle and practice of fundamentals and clinical epidemiology
4. Chin J. Control of Communicable Disease Manual, an Official Report of the AmericanPublic Health Association, 2000.
5. DOHS, Epidemiology and Disease Control Division. National Recommended CaseDefinitions and Surveillance Standards 2003.
6. Vazquez M, LaRussa PE, Gershon A, et al. The effectiveness of the varicella vaccine inclinical practice. N Engl J Med 2001; 344: 955-960.
7. Beaglehole R, bonita R, Kjellstrom T. Basic Epidemiology. World Health Organization,Geneva, 1993.
8. Gordis L Epidemiology. 2nd Edition, WB Saunders Company, Aharcourt Health SciencesCompany, Philadelphia, 2000.
9. MacMahon B, Trichopoulos D. Epidemiology: Principles and Methods. 2nd Edition. Boston: Little, Brown, 1996.
10. Principles of Epidemiology: An Introduction to applied Epidemiology and Biostatistics.2nd Edition. US Department of Health and Human Service, CDC, Atlanta Georgia
11. Rothman KJ, Greenland S. Modern Epidemiology. 2nd Edition, Lippincott-Ravenpublishers: 1998.
12. Rothman KJ. Epidemiology: an Introduction. Oxford University Press, 2002
13. Park K "Textbook of social and preventive medicine" Latest edition

Course Title	Applied Biostatistics	
Second Year	Fourth Semester	Course Code-BPH: 204.4-AB
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course description

This course will develop the student's skills on the basic statistics used in public health research. This course intends to understand about the sampling procedure, inferential statistics tools on the public health activities and analysis.

Learning Objectives

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

- Understand the key concepts on applied statistics.
- Identify and use of appropriate descriptive and analytic statistical measures.
- Describe and apply statistical concepts and knowledge in planning, implementing and monitoring public health programmes
- 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
- Describe and generate information on the health status of a community

Course Contents

Unit 1:Correlation and regression analysis 10 Hours

- 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
- Explain the concept of regression analysis for two variables, cause and effect relationship, compute the regression coefficients and fit for simple linear regression model, concepts of least square methods, residual analysis and coefficient of determination and its meaning and interpretation and solve numerical problems
- Concept of multiple correlation coefficients, partial correlation coefficient and multiple regression analysis, assumption, examples and interpretation.

Unit 2: Sampling theory, Sampling distribution and Estimation 10 Hours

- Define terms used in sampling: population, study population, reference population, sample, sampling unit, sampling frame, Parameter and statistic
- Census and sample survey ; merits and demerits
- Criteria for selection of appropriate sampling technique in survey
- Differentiation between probability and non probability sampling
- Describing probability sampling technique: simple random, stratified, systematic, cluster, multistage and probability proportionate to size sampling (PPS sampling)

- Describing non-probability sampling technique: convenience, judgmental, quota sampling, and snowball
- Lot quality assurance sampling
- Sampling errors and non-sampling errors

Sampling distributions

- Distribution of sample mean, sample proportion and difference between two sample means and two sample proportions
- Central limit theorem
- Standard error of mean and proportion for finite and infinite case
- Estimation: point and interval estimation of the mean, proportion of distribution and confidence interval
- Determination of sample size

Unit 3: Inferential Statistics or hypothesis testing 28 Hours

- Concept of hypothesis: state and define null and alternative hypothesis and formulation of statistical hypothesis.
- Type I and type II errors in testing of hypothesis
- Normal distribution ; concept, definition and characteristics
- Level of significance , p value and its interpretation and power of the test
- Parametric and non parametric test: Assumptions, examples and test statistics.
- z-test for one sample & two samples meansand proportions: Assumptions, examples and interpretation
- t-test for one sample & two samples means: Assumptions, examples and interpretations.
- t- test for correlation coefficient and regression coefficient
- One way analysis of variance, two ways ANOVA: Assumptions, examples and interpretations.
- ANOVA test for regression coefficient
- Non-parametric test of significance:
    - Chi-square test (test for proportion, goodness of fit and independence or association) , Mc-Nemar test , Fisher Exact test: Assumptions, examples and interpretations , Run test, Median test , sign test , Mann Whitney U test, Wilcox on Matched Pair signed-rank test : Assumptions, examples and interpretations

Teaching learning method

- Class lectures, practical problem solving sessions, review of journal articles on use of statistical methods,

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References

1. 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 LearningaIndia 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. PantaPrem Prasad. Biostatistics, Vidyarthi Pustak Bhandar, Bhotahity, Kathmandu, 2011
7. Zar Jerrolad 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.

Course Title	Applied Public Health Nutrition	
Second Year	Fourth Semester	Course code: BPH 204.5-APHN
Credit Hours: 3	Full Marks: 100	Pass Marks: 50

Course Description

This course has been designed to impart applied and practical knowledge on public health nutrition to the students. The course intends to impart practical and theoretical ground to students about nutritional assessment, food security and food sovereignty, application of nutrition intervention. This course also demands for imparting knowledge and current practices of nutrition plan, policies, food laws including the practical experience of National nutritional programme, surveys and researches in Nepal

Learning Objectives

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

- understand, define and develop skill in assessment of nutritional problem through the use of different anthropometric measurement tools
- understand basic concept and implementation of food security, food laws and national and global level nutritional programme
- plan and implement Nutritional programme

Course Content:

Unit 1: Nutritional assessment **7 Hours**

- Different methods of nutritional assessment: anthropometric (WHO New Growth Standards) , biochemical and clinical methods
- Socio-behavioral surveys, Diet Surveys
- Biochemical assessment
- Anthropometrics measurement: Different classifications
- Clinical Assessment
- Indirect parameters of nutritional assessment
- Major nutrition related indicators
- Conceptual framework of (under-nutrition and over nutrition) malnutrition (UNICEF Model)

Unit 2: Nutrition, food security and development **4 Hours**

- Food security and nutrition
- Agriculture, food and nutrition
- Poverty, over population and malnutrition cycle
- Effects of malnutrition on economic productivity, health and survival

Unit 3: Nutritional interventions **15 Hours**

- Behavioural Interventions: CF, Continued BF, EBF, Feeding of LBW infants, HIV and Infant feeding,
- Nutrition education and counselling: importance, methods, objectives, techniques, selection of appropriate methods and media
- IEC materials: types, contents and use in nutrition education
- Food fortification: Home fortification with MNP, Iodisation of salt, Flour fortification, Use of MNPs
- Health related actions: Bio-fortification of cereal crops, deworming, Insecticide treated nets to prevent malaria and anaemia in pregnant women, Water, Sanitation and hygiene interventions
- Situational health actions, emergency feeding
- Nutrition surveillance
- Malnutrition management and rehabilitation: institution, community and home based management and rehabilitation
- Comparative effectiveness of paediatric nutrition rehabilitation unit, nutrition rehabilitation centre and community and home based nutrition rehabilitation
- HACCCP (Hazard Analysis and Critical Control Point)

Unit 4: Nutrition plan, policies and initiatives **8 Hours**

- Historical overview
- Nutrition policies, plans and strategies of Nepal
- Multi-sectoral nutrition plan
- Health and food act and legislation
- Land resources and ownership
- Food marketing and food transportation
- SUN and REACH Initiatives, First 1000 days
- Agriculture Development Strategy
- Food act and food laws.

Unit 5: National nutrition programs **10 Hours**

- Different nutrition programs and projects: IYCF and CMAM/IMAM
- Food fortification and supplementation programs
- School Health and Nutrition Program
- Food and Nutrition in humanitarian emergencies
- Monitoring and Evaluation of nutrition and food security programs
- Role of different government agencies in nutrition

Unit 6: Nutrition survey and research **4 Hours**

- Overview of nutritional surveys and researches conducted in Nepal
- Current nutrition research studies in Nepal

- Mapping out the magnitude and geographical distribution of malnutrition as a public health problem
- Utilization of research findings on nutrition programs in Nepal

Teaching Learning Methods

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

Reference

1. National Nutritional Policy and Strategy 2008, DoHS
2. Multi-sectoral nutrition Plan, NPC
3. Clinical dietetic and nutrition - FPA Nepal.
4. Child Nutrition and Health – Ramesh KantaAdhikari and Miriam Kranz
5. Food and Nutrition for developing countries
6. Human nutrition - Bejamin T. Borton, Wills R. Foster
7. Text book of physiology - Gautom
8. Text book of Social and preventive medicine - K. Park
9. Regmi B and Myia S: Public health nutrition, 2012
10. Nutrition in Developing Countries – Maurice King. Oxford University Press
11. Gartaula RP (2008,2012). Text book of medical sociology and anthropology and medical anthropology, RECIDIN, Kathmandu.
12. Nutrition Assessment and Gap Analysis
13. National Nutrition Policy 2008

Course Title	School Health and Oral Health	
Second Year	Fourth Semester	Course Code : BPH 204.6-SHOH
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course description

This course has been designed to impart a holistic understanding of health promoting school, oral health, eye health and ear care and its application in public health. This course is the combination of healthy school environment, oral health and eye health in health promoting school. This course wills develop knowledge and skill to plan, implement and evaluate the health promoting school in the community.

Learning Objectives

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

- Concept of health promoting school including its components
- Process to develop health promoting school in a community
- Planning, management of health promoting school
- School health policy and rules on health
- Linkages and coordination with existing health and education sectors to develop health promoting school
- Identification of eye and ear problems and their primary management

Course contents

Unit 1: School health: Health promoting school **15 Hours**

- Introduction
  - Health promoting school and its components
  - Rationale of Health Promoting school
  - Overview on health promoting school program
  - Methods of developing health promoting school in community
  - Management of health promoting school
  - Coordination and linkages with concerned stakeholders, health education etc to develop health promoting school

- Components of Health Promoting School
  - School health policy
  - Health teaching
  - Healthful school environment
  - School health services
  - School community participation for Health Promotion

Unit 2. Oral Health in public health **15 Hours**

- Oral health education: concept of, magnitude of the problem types of oral health problem, its determinants and management process
- Distinguish between normal and decayed teeth
- Identify plaque and calculus
- Describes between normal and diseases gums
- Describes caries and periodontal diseases
- Explain less harmful food stuff and eating habits
- Explain the way of preventing dental caries and periodontal diseases
- Plan, implement school program on oral health and hygiene
- Oral Disease Prevention and Health Promotion
    - Public Health Agenda to Improve Oral Health
    - Oral Disease Burden and Oral Hygiene
    - Gum Diseases and their consequences like Heart Failure and Respiratory Problems
    - Interventions for Oral Disease Prevention
    - Ways to Help Kids Avoid Periodontal Disease
    - Dental Care and Pregnancy

Unit 3. Primary Ear and Hearing Care **9 Hours**

- Introduction to hearing loss, means that can cause hearing loss (before or during birth and after birth)
- Congenital hearing loss problem
- Hearing loss among children, and adult
- Symptoms to look for if a child has an ear infection
- Care of ears (especially children and adults)
- Prevention of ear infection in children
- Hearing aids

Unit 4. Primary Eye care **9 Hours**

- Global trends of blindness and visual impairments
- Blindness and causes of blindness
- Prevention of avoidable blindness and visual impairment
- Common Eye problems/ ocular problems and their risk factors
- Prevention and control Eye problems/ ocular problems
- Strategies and policy of prevention and control of blindness: National and International

Teaching Learning Methods

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References

1. Lawson RA "Essentials of Dental Surgery and Pathology".
2. Strategies to Programme Girl's Education. Education Section. Program Divisions. UNICEF 1995.
3. Wallace HM & Girk K, “Health Care of Women and Children in Developing Countries"1990.

Course Title	Term Paper Preparation (Medical Sociology and Anthropology)	
Second Year	**Third Semester**	**Course code: TPP 204.1-MSA**
Credit Hour: 1	**Full Mark: 50**	**Pass Mark: 30**

Course description

TPP is a course designed to deliver practical skills for the students to do necessary lab demonstration. Students will observe the lab and field based demonstration, 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 Medical Sociology and Anthropology.

Details of TPP

Subject	Practical Hour	Content	Log or practical book
Medical Sociology and Anthropology	**32**	- Topic selection on sociology and anthropology and development and presentation of term paper - Observation and study around the your college and residential about the sociology and anthropology (Religion, caste, retailer shop, temple, school, government offices, way, bridge, river, population, hospital and health center, alternative medicine center, party, club and other organization and many more indicator) - Development of social mapping of that visited area - Brief write about activities of observed organization - Presentation and submission of report	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Practical Skill Development (Applied Environmental and Occupational Health)	
Second Year	Third Semester	Course code PSD 204.2-AEOH
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

PSD is a course designed to deliver practical skills for the students to do necessary lab demonstration. Students will observe the lab and field based demonstration, 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 Applied Environmental and Occupational Health.

Details of PSD

Subject	Practical Hour	Content	Log or practical book
Applied Environmental and Occupational Health	32	- Field study and situation report of ODF area - Hospital sanitation and healthcare waste management procedure of any hospital - Observation of public area about the sanitation and hygiene - Situation report of occupational safety measure and practice in any sector of development and management - Publish the report in any news paper or in college wall paper/board - Preparation and submission of report	Maintain
Total practical :	**32 Hours**		

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Term Paper Preparation (Applied Epidemiology)	
Second Year	Fourth Semester	Course code: TPP 204.3-AE
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

TPP is a course designed to deliver practical skills for the students to do necessary lab demonstration. Students will observe the lab and field based demonstration, 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 applied epidemiology.

Details of TPP

Subject	Practical Hour	Content	Log or practical book
Applied epidemiology	**32**	- Field visit in one any of hospital, health center, health post and study of epidemiological distribution and determinants of diseased person who was admitted in hospital or in OPD visit and establish the causation through the epidemiological triad, mode of transmission, or any causation, prophylaxis and treatment procedure that he is adopted. - Along with nutritional assessment of that patient also (all anthropometric, dietary habit, and present situation of food intake) - Preparation of casual relation chart - Preparation of report, presentation and submission to department individually - Critically analysis of governmental programme regarding any disease	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Term Paper Preparation (Applied Public Health Nutrition)	
Second Year	**Third Semester**	**Course code: TPP 204.4-APHN**
Credit Hour: 1	**Full Mark: 50**	**Pass Mark: 30**

Course description

TPP is a course designed to deliver practical skills for the students to do necessary lab demonstration. Students will observe the lab and field based demonstration, 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 applied public health nutrition.

Details of TPP

Subject	Practical Hour	Content	Log or practical book
Applied Public Health Nutrition	**32**	- Diet survey of any community (family and relatives, any specific community, area) and analysis in relation with anthropometric indicator, National standard, WHO standard, reporting - Presentation of term paper in group wise in any concern area of nutritional issues, policy, plan, strategy etc	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Practical Skill Development (School Health and Oral Health)	
Second Year	Third Semester	Course code: PSD 204.5-SHOH
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

PSD is a course designed to deliver practical skills for the students to do necessary lab demonstration. Students will observe the lab and field based demonstration, 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 school health and oral health.

Details of PSD

Subject	Practical Hour	Content	Log or practical book
School health and Oral health	**32**	- Organize of one day school health programme in near school (Group based programme)- brushing process, personal hygiene maintain, sexual health class and discussion with full of rapport building, development of adolescents corner, sanitation, drinking water, gender based violence - Reporting of these school activities programme with social and cultural aspects of student also (Religion, area, gender, caste, family type and present status of his /her family of individual students) - Situation of healthy school environment	Maintain
Total practical :	**32 Hours**		

Maximum 20 students could be sitting for effective practical in one event. But that is depends upon the practical room and setting.

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Third Year

Fifth Semester

Course Title	Reproductive Health and Gender	
Third Year	Fifth Semester	Course Code:BPH 305.1-RHG
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Description

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

Learning Objectives

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

- Concept of adolescent health problems as social problems
- Concept of women's health, gender and development
- Gender and its effect on health
- Basic concept of gender analysis and mainstreaming
- Basic concept of marginalization and its impact on health
- Concept of gerontology, disability and rehabilitation

Course contents

Unit 1: Adolescent and sexual health **6 Hours**

- Concept, meaning, goal objective of adolescent and sexual health
- Adolescent health special need for growth and development of spiritual, physical emotional and social life.
- Adolescent problems in Nepal, including teenage pregnancy, pre-marital sex, RTI, HIV/AIDS, drug abuse, alcoholism, smoking, accidents, violence, crime etc.
- National Adolescent Health and Development Strategy

Unit 2: Women health, Gender and development **12 Hours**

- Introduction to women and health
  - Status of women's health in national and international contexts,
  - Concept of women and health, difference between the health of men and women
  - Women specific health problems: Uterine prolapse, breast cancer, cervical cancer, fistula, STI/PID, HIV/AIDS and its implication on family health.
  - Difficult life circumstances and its impact on women, the policy and programs in place to meet the basic health needs of socially and politically displaced persons:
    - Destitute (society, family)
    - Refugee (political)
    - Internally displaced (political and social)
    - Disaster and war

- Gender related health policy, program planning, monitoring and interventions programs
- Basic concept of gender analysis
    - Basic concept of gender mainstreaming including the national policy of mainstreaming gender
    - Role of men in bridging the gender gap
    - Gender friendly health services
    - Women's empowerment and agenda for empowerment (legislation, female education, social and political participation, labour saving technologies, economic upliftment opportunities)
    - Empowerment and self-help of women

Unit 3: Gender Based Violence **12 Hours**

- Concept, Scope and evolution of gender based violence
- Scope and evolution of violence against women
- Factors contributing to violence- illiteracy, low status, poverty, socio-cultural factors.
- Life cycle of violence
- Social and health effect of violence on age groups: children, adolescents, youth and adult
- Types of violence
    - Domestic violence
    - Violence in school
    - Violence in work place
    - Violence in open place
    - Violence in correction centers including prison.
    - Violence in health care settings
- Steps towards eliminating gender based violence;
    - Public health responsibilities for preventing violence
    - Education for violence prevention, including the role of the media
    - Roles of family members for prevention of violence at home
- Roles of family members on STDs, HIV/AIDS cases along with other chronic problems, consequences of violence, drug abuse and sexual abuse

Unit 4: Gerontology **8 Hours**

- Epidemiology of gender, ageing and development problem.
- Socio-economic and legislative structure & their impact on care of elderly person.
- Helping elderly to cope with hearing and visual impairment, disability in mobility.
- Major problems of elderly including accidents, rehabilitation.
- Role of the state in social security community based rehabilitations vs. institutionalization.

Unit 5: Gender, Disability and Rehabilitation **6 Hours**

- Concept of impairment, disability and major factors leading to disability in relation to gender
- Concepts of rehabilitation including community based rehabilitation
- Preventive measures related to gender based disability

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

Unit 6: Gender, Equity and access **4 Hours**

- Basic concept of equality, equity and inequalities
- Social exclusion and marginalization and its impact on health
- Social inclusion and empowerment
- Addressing equity and access issues in health sector

Teaching learning methods

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

Evaluation criteria

Internal assessment in different forms 20%
Final examination 80%

References

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

Course Title	Clinical Epidemiology	
Third Year	Fifth Semester	Course code: BPH 305.2-CE
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Description

This course will give the epidemiological research perspective of clinical epidemiology. The course also aims to impart skills and techniques to evaluate, assess and examine different interventions, screening, surveillances and monitoring programs in the field of public health.

Learning Objectives

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

- Describe the clinical epidemiology of non-infectious disease and health problems.
- Understand and describe the application of epidemiological principles and methods in prevention and control of communicable and non- communicable diseases
- Implement epidemiological strategies in disease prevention, control and health promotion activities including screening.
- Understand the emerging and re-emerging diseases in public health
- Understand concept and principles of social epidemiology

Course Contents

Unit 1: Clinical epidemiology **36 Hours**

- **Introduction**
  - Concept, definition, element and application of clinical epidemiology
  - Public health context of clinical epidemiology
  - Principles of clinical epidemiology
  - Uses of clinical epidemiology

- **Diagnostic test function and confounding-**
  - Definition, type and importance of; reliability, validity, precision, assumption of independence, confounding
  - Introduction, definition of normality and abnormality, diagnosis, ROC curve (receiver operating characteristic curve) and prevention in clinical practice

- **Screening**
  - Definition, aim, use and type of screening diagnostic test
  - Criteria and process of screening
  - Advantage and disadvantage of screening test
  - Various screening programme in Nepal

- **Types of screening diagnostic test**
  - Qualitative diagnostic test

- Quantitative diagnostic test

- **Description of performance of diagnostic and calculation**
  - Gold standard
  - Graphic and tabular representation of diagnostic test result
  - Definition, notation and calculation of test performance characteristics
    - Sensitivity
      - True positive
      - False positive
    - Specificity
      - True negative
      - False negative
    - False negative rate
    - False positive rate
    - Positive predicative value
    - Negative predicative value

  - Relation between test performance characteristic
    - Sensitivity and FNR
      - Calculating sensitivity in terms of FNR
      - Calculating of FNR in terms of sensitivity
    - Specificity and FPR
      - Calculating sensitivity in terms of FPR
      - Calculating of FPR in terms of sensitivity
    - Likelihood ratio and serial likelihood ratio
    - Uses of sensitivity and specificity test
    - Deference between sensitivity and specificity

- **Surveillance**
  - Definition, objective, types, component and composition, purpose and importance
  - Process of surveillances
  - Surveillance system in Nepal
  - Early Warning Reporting and Response System in Nepal

- **Strategies of epidemiology**
  - Ways and means of assembling facts on types of people affected by disease and by various circumstances
    - Forming a hypothesis and testing it
      Reviewing various epidemiological studies
- Standardization – rationale, direct and indirect standardization
- Lead time of diseases mechanism
- Concept of risk, uses of risk, studies of risk and risk factors
- Clinical risk factors of non- communicable diseases.

- Comparing and interpretation of the risk factors and odds ratio
- Exposure, latency period, immediate cause
- Concept of prognosis of disease and prognostic factors
- Emerging and re-emerging infectious diseases and threat to clinical and public health

Unit 2: Genetic epidemiology **6 Hours**

- Concept of gene, genetic and genetic epidemiology
- Classification of genetic disorder and disease related to genetic disorder
- Factor causing for genetic abnormalities
- Differences between congenital abnormalities and teratogenic effect
- Preventive and curative aspects of genetic disease

Unit 3: Social epidemiology **6 Hours**

- Meaning, scope and application of social epidemiology
- Evolution of epidemiology with reference to social epidemiology
- Application of social epidemiology in public health
- Role of social epidemiology in designing disease, control plan and strategies
- Limitation of social epidemiology

Teaching Learning Methods

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References:

1. MoHP/DoHS [Nepal]. Annual Report.
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6. Principles of Epidemiology: An Introduction to applied Epidemiology and Biostatistics.2nd Edition. US Department of Health and Human Service, CDC, Atlanta Georgia
7. Park K "Textbook of social and preventive medicine" Latest edition

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Course Title	Applied Health Education	
Third Year	Fifth Semester	Course code : BPH 305.3-AHE
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course description

An education aspect of public health program is indispensable responsibility of health Professional specifically of preventive health care mangers. The graduates need to have a clear concept of planning, Implementation and overall management of the health education program therefore, this course has been designed with a view to develop necessary skills on the essential components of health education with special emphasis to health education program in occupational and institutional setting.

Learning Objectives

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

- Describe the need for a planned health education program.
- Analyze various models of planning of health education program.
- Describe various components of planning, implementation and evaluation of health education program
- Prepare plan for a health education program on any of the priority areas of EHCs and implement it in a real field situation
- Describe the implementation and evaluation process of health education in various occupational and institutional settings.
- Critically appraise policy, strategy and activities in health education and promotion in Nepal

Course Contents

Unit 1: Health promotion and education in Nepal 8 Hours

- Plan, Policy and strategy regarding health promotion and education in Nepal
- Review of historical development and current health promotion and education activities of Health education and health promotion program in Nepal
- Role and function of institutions responsible for designing and delivering the health promotion and education program in Nepal
- Activities carried at various levels for Health Promotion and Education and identification of the areas needing changes for effective accomplishment of National Goals.
- Participation of multiple sectors to take actions to strengthen policies and improve practices that are driven by the best available evidence and knowledge for e.g. school, workplace.

Unit 2: Planning of health promotion and education program 6 Hours

- Concept, meaning, importance and steps of Health education program planning
- Models of health education program planning
    - Classical Model
    - Precede-Proceed Model
- Concept, steps and its application in priority PHC program interventions by using both of the planning models
- Characteristics of a good health education program plan

Unit 3: Implementation of health promotion and education program 6 Hours

- Concept, meaning and definition of implementation
- Implementation approaches and strategies.
- Definition, techniques, indicator and importance of monitoring the health education / health promotion program
- Definition, techniques, indicator and importance of supervising the health education / health promotion program

Unit 4: Evaluation of health education program 6 Hours

- Concept, meaning, definition and importance of evaluating health education program
- Techniques and tools of evaluating the health education program
- Stages of evaluating the health education program
- Indicators for evaluating health education program at different stages

Unit 5: Special topic on Planning, implementation and evaluation of health education program: 16 Hours

- **Health issues on public Health;**
    - Reproductive Health - Family planning, Safe motherhood, Immunization, Malnutrition
    - Infectious Diseases- ARI,CDD, Tuberculosis, Leprosy, HIV/AIDS and STIs Gastro-intestinal diseases
    - Non-Communicable Diseases- Diabetes, Heart diseases, Cancer, Mental illness,
    - Vector borne diseases- Malaria, Kala-azar, Filariasis, Japanese Encephalitis
    - Environmental and Personal Hygiene- Personal hygiene Environmental sanitation
    - Social Problems- Substance abuse, rational use of drugs

Unit 6: Scope and HRH in Health promotion and education in Nepal 6 Hours

- Overview of human resource in health education in Nepal
- Overview of health education program of MoHP; INGO, NGOs and bilateral Organizations
- Career opportunities in health education

- Objectives, role, functions and activities of National Health Training Centre (NHTC) and other academic institutes in training and health education
- Objectives, strategy, role, functions and activities of National Health Education, Information and Communication Centre (NHEICC).

Teaching Learning Methods

- The teaching learning activities will be mini lecture, group work and discussion, seminar and report writing.
- The instructional materials will be usual classroom materials: White board, flip chart, overhead projector, power point presentations through LCD projector
- Flexible classroom for lecture and group work

Evaluation

Internal assessment -20%
Final examination 80%

References

1. Green, LW. et. al. Health education Planning; A Diagnostic Approach. California: Mayfield Publishing Company, 1980.
2. Pradhan, HB., A Textbook of Health Education, Educational Resources for Health, Kathmandu
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4. Kathmandu
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9. David Werner: Where There Is No Doctor; revised for India by Voluntary Health association of India
10. Green L W, Kreutr MW: Health Program Planning: An educational and ecological approach : McGraw-Hill companies inc. NY, 4th edition
11. Health behaviour and health education: Theory, Research and Practice; edited by Glanz
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14. International Journal of Health Promotion and Education, Quarterly- An official publication of International Union of Health Promotion and Education; Different volumes

Course Title	Behavioural Science and Mental Health	
Third Year	Fifth Semester	Course code: BPH 305.4-BSMH
Credit Hours: 3	Full Marks: 100	Pass Marks: 50

Course description

This course cultivates the students a holistic understanding of psychology, behavioural science and mental health its application in public health.

Learning Objectives

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

- Identity and trace out the sources and the impacts of mental health in Nepal
- Explain the issues and problems in mental health and its management.
- Analyze the factors influencing motivation in adopting of innovations on acceptance of modern health care facilities
- Health psychologists study the role of psychology in health and wellbeing;
- They examine health beliefs as possible predictors of health-related behaviours;
- Health psychology also examines beliefs about illness and how people conceptualize their illness;
- Stress is the product of the interaction between the person and their environment – it can influence illness and the stress–illness link is influenced by coping and social support;
- Beliefs and behaviours can influence whether a person becomes ill in the first place, whether they seek help and how they adjust to their illness.

Course contents

Unit 1: Psychology **12 Hours**

- **Introduction to Psychology**
  - Concept, definition, branches of psychology

- **Motivation**
  - Meaning and definitions of motivation.
  - Maslow's concept of human motivation, including hierarchy of needs.
  - Motivation and adoption of innovation.
  - Motivation towards utilizing modern health facilities.

- **Perception**
  - Meaning and definition of attention perception and sensation.
  - Role of perception
  - Perception of health beliefs and practices
- **Emotion**
  - Meaning, characteristics
  - Theories of Emotions

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

- **Psychological relation**
  - Terminology and concepts useful in studying health problem.
  - Body mind relationship
  - Level of consciousness
  - Dynamic system of personality.
  - Drivers and motives

Unit 2: Behavioural health **20 Hours**

- **Health behaviour**
  - Definitions of Health Behaviour and Health Status.
  - Relation of behaviour with morbidity and mortality
  - Behavioural risk factor related to health
  - Models of Health Behaviour.
    - Social Cognition Models
      - The Health Belief Model
      - Self-efficacy Theory
      - The Theory of Reasoned Action and
      - Theory of Planned Behaviour
    - The stages of change model
      - Precontemplation
      - Contemplation
      - Preparation
      - Action
      - Maintenance

- **Illness Behaviour**
  Concept, definition, type and interpretations of illness behaviour

- **Illness beliefs**
  - The dimensions of illness beliefs
  - A model of illness behaviour
  - Health professionals' beliefs

- **The stress–illness link**
  - Stress models
    - Cannon's 'fight or flight' model
    - Selye's general adaptation syndrome
    - Life events theory
  - Stress causing illness

- **Chronic illness**
    - Profile of an illness
    - Psychology's role
    - Health professional beliefs

- **Sickness role behaviour**
    - Concept, definition, type, importance of sick role behaviour.
    - The sick role: an introduction to illness as deviance and sickness as social deviance and being sick.
    - The influence of sex, age, race and ethnicity, and social class on the sick role.
    - The physician- patient role relationship: model's of interaction and cultural difference in communication
        - Person's sick role model.
        - Swaz and Hollander's model.
        - Health service provider and patients relationship.

Unit 3: Mental Health in Public Health **16 Hours**

- Concept of Mental Health
    - Concept of normalcy, normal mind, characteristics of abnormalities
    - Prevailing misconception about occurrence and treatment of mental illness
    - Description of measurable indicators of positive well-being, good psychological adjustment
    - Personality development including behavioural, psychodynamic, cognitive, moral and other schools of personality development

- **General psychopathology**
    - Providing information to the health community about type, causes, clinical features, treatment and prevention of the following groups of mental disorders
    - A. Organic, including symptomatic mental disorders
    - Mental and behavioural disorders due to psychoactive substance use [with special emphasis on prevention of substance abuse]
    - Schizophrenia, schizotypal and delusional disorders
    - Mood disorders
    - Neurotic, stress- related and somatoform disorders
    - Behavioural syndromes associate with physiological disturbances and physical factors
    - Disorders of adult personality and behaviour
    - Disorders of psychological development
    - Mental health education for the individual and the community
        - Providing information about the concept of integration of mental health with general health services
        - Techniques of case finding, information about treatment facilities
        - Epidemiology of mental illness

- **Applications of principles of prevention and control of mental illness**
  - Different level of prevention
  - Rehabilitation
  - Community Mental Health program
  - Policy and strategy of prevention and management strategy of Nepal Government

Teaching learning methods

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References

1. Gldeifalis "Oxford Textbook of Psychiatry".
2. Gibbons, "Integrated Clinical Science Psychiatry".
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4. Nepal M. Wright C "Manual of Mental Health" HLMC. Kathmandu, 1994
5. Swift CR, "Mental Health" AMREF, Nairobi.
6. Wallace HM&Girk K, “Health Care of Women and Children in Developing Countries" 1990.
7. Bhatia & Bhatia - Psychology and Nurses.
8. Sharma, Sarita: Psychology, HLMD, IOM.
9. Volkov FM, et al edited Psychology: Progess Publishers: Moscow, 1986.
10. Wood - Fundamental of Psychology.
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12. A useful introduction to how the theories and research of health psychology can be put into practice.
13. Bowling, A. (1995). Measuring Disease. Buckingham: Open University Press.
14. An overview of the theory behind measuring quality of life and a clear review of the existing scales for assessing health status.
15. Connor, M., & Norman, P. (eds) (1995). Predicting Health Behaviours. Buckingham: Open University Press.
16. A thorough description of social cognition models and the extent to which they predict health-related behaviour.
17. Ogden J. (2004). Health Psychology: A Textbook. 3rd edn. Buckingham: Open University Press.
18. This book has formed the basis for this chapter and provides grounding in health psychology at a more advanced level.

Course Title	Community Health Diagnosis	
Fifth Semester	Third Year	Course code : BPH 305.5-CHD
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course description

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

Course Objectives

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

- Concept, importance, components and process of community health diagnosis
- Able to design and plan community diagnosis process to implement in practical setting
- Carry out a community diagnosis in actual setting/community
- Collect, analyze and interpret information required of a community diagnosis.
- Prioritize real problem in the community and conduct micro health project based on real needs
- Prepare a report of community diagnosis exercise and presentation in their respective college.

Course contents

Unit 1: Community Health Diagnosis **48 Hours**

- **Introduction to community health diagnosis** **4 Hours**
  - Concept and objectives of community health diagnosis
  - Differences and relationships between community health diagnosis and clinical diagnosis
  - Discuss the importance and relevance of community health diagnosis for public health

- **Components and processes of Community Health Diagnosis** **22 Hours**
  - Components of Community health diagnosis
  - Steps and processes of community health diagnosis
  - Different approaches to community health diagnosis
  - Differences between community diagnosis and clinical diagnosis
  - Concept, definition and types of social mapping
  - Designing of methodology, including sampling method, survey instruments,

- Different method/techniques (observation, interviews, focus group discussion, participatory appraisal, etc.) and tools (observation checklist, questionnaire, discussion guideline, etc.) used in Community Health Diagnosis.
- Qualitative and Quantitative data management and analysis of collected data during community diagnosis process
- Preparation of Dummy table, data analysis procedures and interpretation
- Techniques of findings presentation in the community and college
- Ethnical aspects (Ethnical aspects of community diagnosis)
- Techniques of applying finding based recommendation
- Importance of community participation and ways to engage community people in community diagnosis
- Importance and ways of prioritization of the problems in the community: Observed need, felt need and real need
- Resource (internal and external) identification and mobilization
- Concept, designing, implementation evaluation and sustainability activities of micro health project in relation to Community Health Diagnosis

- **Format for report of community diagnosis** **2 Hours**
  - Preparation of written community diagnosis report: steps, components and format.

- **Orientation to the students** **20 Hours**
  - **Orientation about the proposed community**
    - Orientation about the community they will be posted

  - **Designing of CD process for implementation in the field**
    - Orientation about process of field work
    - Literature review: Review of epidemiological studies (Review of theories, formula and indicators)
    - Setting objectives; Development of the general and specific objectives by each group
    - Identification of variable based on objective to be met
    - PRA and PLA approaches
    - Development and pre-test of specific tools for data collection,
    - Development of work plan in the community
    - Logistic arrangement and its management

Teaching Learning Methods

Lectures, group discussions, library study assignments and home assignments. Students will be assigned a household in the selected community where they will visit and collect the information.

Evaluation

Internal assessment in different forms 20%

Final examination 80%

References

1. Hale. C; Shrestha IB and Bhattacharya. A "Community Diagnosis Manual" HLMC,IOM 1996.
2. McCurker J "Epidemiology in Community Health; American Medical and Research Foundation" Rural Health series, Kong M.et. al."Tropical Medicine".
3. Programme. FJ Bennett [ED]: "Community Diagnosis and Health Action- a manual for tropical and rural areas" 1997.
4. Thapa J, Tandan M and Subedi RK., A Text book of Community Health Diagnosis, 2012
5. Sydney L. Kark MD. "The Practice of Community Oriented Primary Health Care".Appleton- Century Crafts, A Publishing Divisions of Prentice- Hall Inc 1987.
6. Vaughan JP and Morrow RH [ED]; Manual of Epidemiology for District Health Management". World Health organization. Geneva 1989.

Course Title	Term Paper Preparation (Reproductive Health and Gender)	
Third Year	Fifth Semester	Course code: TPP 305.1-RHG
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

TPP is a course designed to impart practical skill for students to do necessary field work. Students will collect field and lab based data/specimen, preservation and maintains all these collected things in log or practical book under the direct supervision of concern teacher. Students will acquire practical knowledge and skill on reproductive health and gender.

Details of TPP

Subject	Practical Hour	Content	Log or practical book
Reproductive health and Gender	32	- One day concurrent field visit for RH material collection - Preparation and submission of report to department with critically appraisal and necessary recommendation of improvement with collected materials - Group presentation on term paper of any issue related to gender and reproductive health	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Regular monitoring by local supervisor
- Supervision of class by respective faculty
- Final examination must be based on practical

Course Title	Practical Skill Development (Applied Health Education)	
Third Year	Fifth Semester	Course code: PSD 305.2-AHE
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

PSD is a course designed to impart practical skill for students to do necessary field work. Students will collect field and lab based data/specimen, preservation and maintains all these collected things in log or practical book under the direct supervision of concern teacher. Students will acquire practical knowledge and skill on applied health education.

Details of PSD

Subject	Practical Hour	Content	Log practical book
Applied health education	32	- Development of different types of IEC materials by using different approach in specific area of public health problem (drawing, development and define its application, importance and process of use) - Preparation of lesson plan, and classroom teaching (conduct at least 10 class on public health subjects) in/or nearest college of under year of current where you are studying	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Regular monitoring by local supervisor
- Supervision of class by respective faculty
- Final examination must be based on practical

Process of teaching learning

1. Taken approval of teaching from concern college administration and head of the department with full of specification of teaching our, time of teaching, duty hour in college, task you have to perform in college, content of teaching.

2. Prepare and development of lesson plan of teaching hour and need to approve from the public health department of college of teaching and college you currently studying.

3. Development of necessary teaching methods, and media, approach of teaching

4. Daily class taken and close observation by concern college both college

5. Preparation of report and submission of report to department of both college and evaluation of individual will be assessed by teaching learning college

6. For evidence you have to submit (attendance sheet of your and class room) and final completion letter from the respective college and department.

Course Title	Practical Skill Development (Community Health Diagnosis)	
Third Year	Fifth Semester	Course code : PSD 305.3-CHD
Credit Hours: 5	Full Mark: 100	Pass Mark: 60

Course description

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

Course Objectives

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

- Able to Communicate with the people in relation to socio-cultural context of the community and identify health problems prevalent in the community
- Apply different methods and tools to collect data required for community diagnosis.
- Analyze, interpret the collected data and explore for ways to solve them
- Identify the community resources to address the problems and conduct MHP
- Able to ensure community participation
- Write a report of community diagnosis.

Details of Practical Skill Development

- **Orientation to the students**
  - **Orientation about the proposed community**
    - Orientation about the community they will be posted

- **Community Health Diagnosis (Residential field) 160 Hours**
- **Community Health Diagnosis (Field)**
  - In the community – rapport building, meeting with the people, social mapping, data collection, preliminary analysis, community presentation, prioritization of the problem, implementation of micro health project
  - Finding presentation and feedback session in college
  - Submission of the report to the Department of Public Health in Respective College

- **Process**
  - Teaching learning methods of CHD as per theory
  - Presentation by the students and integrated teaching.

- Students will be placed in the community for the period of 30 days in small groups (Around 10 students). Prior to departure to the field, orientation will be given to the students.
- Student will sit in community completely in local setting (prohibited to take bed, junk and readymade food, conduct any political activities, fashionable clothes)

- **Final report format according to annex attached**

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Third Year

Sixth Semester

Course Title	Health Service Management in Nepal	
Third Year	Sixth Semester	Course Code : BPH 306.1-HSMN
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Description

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

Learning Objectives

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

- Describe the history of the development of health services in Nepal.
- Critically analyze the Problems and issues of the health system management at the central, district and the grassroots levels.
- Develop, ensure and provide quality health services in Nepal.

Course contents

Unit 1: Health Services **4 Hours**

- Concept of health services
- Development of health care services in Nepal
- Level of health care delivery system: (Home-based, Traditional Faith Healing, Community), primary, secondary and tertiary
- Approach of health services (Ayurvedic, Homeopathic, Unani, Acupuncture, Naturopathic, Allopathic, and other alternative systems)
- Integrated health services: advent, program, strengths and weaknesses.

Unit 2: Central Health Services Management **6 Hours**

- Organizational structure of health services: central, regional, and district levels
- Descriptions and analysis of roles and responsibilities of divisions and centres of DoHS
- Inter-sectoral coordination between all levels including central level (between line ministries),district level (district level line authorities), and grass-root level (local level line organization) and coordination within the system.

Unit 3: Management Information System **14 Hours**

- Introduction to Management Information System
    - Definition and evolution, components of an information system
    - Information system resources, objectives and limitations

- Concept of health information system, clinical information system
- Information System Frameworks
  - Different perspectives on information system
  - System analysis: concept, system approach, system selection procedure
  - Types of information system, need for system analysis, role of system analyst

- Health Sector Information System (HSIS)
  - Concept of health management information system and human resource information system
  - Purposes and features of HSIS
  - HSIS tools and information dissemination
  - HSIS as monitoring and evaluation tool

- Ethical and Social Issues in Information System
  - A mode of thinking about ethical, social and political issues
  - Ethics in an information society: responsibilities, accountability, liabilities
  - Information rights: privacy and freedom in an information society
  - Property rights: intellectual property

Unit 4: District Health Services Management 16 Hours

- Management of district health services: section, functions, organizational structure, human resources, job description of all levels of health workers, monitoring and supervision system, on-the-job training and performance appraisal policies, district level programmes, monitoring and evaluation of district health programmes, responsibility towards regional health directorate.
- Management of primary health centres: functions, organization structure, human resources, role and responsibilities of PHC in-charge, programmes run by PHC, monitoring and supervision of the programmes.
- Management of health posts, sub-health posts: management committee, functions, organizational structure, infrastructures, human resources, programmes, responsibility towards DPHO/DHO.
- Introduction, objectives, target, activities, strength and weaknesses of FCHW programme.
- Objectives, target strength and weakness of PHC/ORC and EPI clinic.
- Role of private sectors in health services and management.
- Referral systems for patients with in the district
  - Need for 2-way referral with feedback.
  - Need for coordination between district hospital and District Public Health Office and health posts.
- Local level programmes such as immunization, FP/MCH, nutrition, HIV/AIDS, and others.

Unit 5: Decentralization **2 Hours**

- Concept of decentralization,
- Function and role of DHO/PHO
- Functions and role of DDC, Municipality and VDC in the context of decentralization of health sector.

Unit 6: Quality Assurance in Health Services **6 Hours**

- Definition and concept of quality assurance in health services
- Standard guidelines for different types of health services/health institutions
- Hindering factors to assure the quality in health services
- Role of MoHP/Professionals/individual role in order to maintain quality in health services.

Teaching learning methods

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

Evaluation

Internal assessment in different forms 20%

Final examination 80%

References

1. Nick Black and Reinhold Gruen. "Understanding Health Services" Understanding Public Health Series. Open University Press, 2005.
2. Tandan M. Thapa J. and Regmi B., A Text book of Health services management in Nepal.2012
3. Linda A Hill. "Becoming a Manager: How New Managers Master the Challenges of Leadership" Harvard Business School Press, 2003.
4. Kenneth Blanchard & Spencer Johnson. "The One Minute Manager" 2008.
5. Dixit H. "Quest for Health" 2nd Edition, Educational Enterprise, 2003.
6. WHO. "Policy Papers on Health Nepal" WHO & MoHP/GoN/Nepal, 2007.
7. Pradhananga YP. "Health and Health services in Nepal".
8. Gill Walt. "Health Policy: An Introduction to Process and Power" Zed Books, 1994.
9. Relevant materials and national and international publications on the topics of course contents.

Course Title	Public Health Administration and Management	
Third Year	Sixth Semester	Course Code : BPH 306.2-PHAM
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course description

The course offers opportunity to learn the modern concepts and principles of public health administration and management in particular.

Learning Objectives

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

- Introduction, concepts and principle of public health administration and management
- Different model (Classical and scientific) of public Health Administration and management.
- Functioning of organization and its management in terms of human resources selection and placement, Responsibilities, motivation, delegation of authority and co-ordination skills
- Organizational management strategies
- Able to analyze the need for competent administration in health services in Nepal.

Course Contents

Unit 1: Introduction to Public Health Administration & Management 4 Hours

- Concept, scope, objectives, function and Principles of public health administration and Management
- Difference between public health Administration and Management
- Concept of Mission, vision, goal, objectives and target and setting different level of organizational goals and objectives
- Vision, mission and goals of Public Health Administrative bodies in Nepal

Unit 2: Models of PHA and Management 40 Hours

- **Classical Model: POSDCoRB**
  - Planning**:**
    - Definition of planning
    - Elements/Characteristics of Planning
    - Concept of Top down and Bottom Up approaches in planning
    - Types of Planning: Broad sectoral Strategic planning, Organizational planning, Detail logistic and operational planning, long term and short term planning, Annual Planning , programme planning, Human resource planning, Economic planning
    - General planning cycle
    - Programme implementation planning (exercise with example)
    - Health service planning process in Nepal

  - Organization of Health Service:
    - Introduction, concept, characteristics and Importance of Organization
    - Formal and Informal structure of organizational Management

- Organization theory: a] Classical b] modern
- Departmentalization and division of Work in the organization
- Organizational Structure Under Health system of Nepal (Organogram)

- Staffing Aspects of the Organizing Functions:
  - Concept and Staffing pattern in different level of Health Organization in Nepal
  - Staffing Process: Human Resources planning, recruitment, selection, employment, and orientation, deployment, Training and development, performance appraisal, Promotion, transfer, demotion and Separation and Placement
  - Job description: Roles and responsibility of DPHO/DHO and supervisor of district level HR in health service delivery
  - Career planning opportunities training promotion
  - Staff grievances and negotiations

- Directing
  - Introduction
  - Keys to successful directing
  - Delegation as a means of directing: Elements and Process of delegating authority
  - Decision making and responsibility
  - Motivational aspects
  - Leadership
  - Communication
  - Monitoring, supervision and evaluation

- Controlling function in health services administration
  - Concept and principle
  - Financial, Human resources and activities controlling

- Co-ordination of Health Services
  - Concept and elements of co-ordination
  - Types of Co-ordination: Internal, External, Vertical, Horizontal, Functional and Organizational co-ordination
  - Techniques of co-ordination

- Recording and Reporting
  - Concept, definition and importance of recording and reporting
  - Pattern of recording and reporting
  - Techniques of report writing, format and content

- Budget
  - Introduction, Process of Health budgeting in Nepal

- **Scientific Model: System Approach- IPO Model**
  - Management by Objectives
  - Logical Framework Analysis Model (designing of log frame-exercise with examples)
  - Strategies management: SWOT Analysis, Strategy formulation and its Process, Stages and process of strategic management

Unit 3: Management Promotion Strategies **4 Hours**

- Definition and components of Organizational Development
- Organizational Behaviour Management
- Organizational Communication
- Management Evaluation

Teaching learning methods

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

Evaluation

- Internal assessment in different forms 20%
- Final examination 80%

References

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3. Tandan M, Thapa J. and Regmi B., Principle and practices of Public Health administration. 2012
4. "Financial Health Service in Developing Countries" An Agenda for Reform. A World Bank Policy Study Washington D.C. 2004 USA.
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Course Title	Biodiversity, Climate Change and Health	
Fourth Year	Eighth Semester	Paper : BPH 306.3-BCCH
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Description

Over the last 60 years, climate change has moved from the obscurity of key scientists to becoming one of the most widely publicized and discussed environmental challenges of modern times. We usually think of climate change as affecting the ecosystems of the earth, and not of the impact on our health. This course will examine the human health impacts of climate change from a number of perspectives.

Learning Objectives

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

- The main focus of the course is to give the student an understanding of the effects of climate change on health.
- Be able to lay out a research agenda for climate change and health.
- Describe the adaptive actions that various communities need to take in order to prevent the negative impacts on health, and the multi-disciplinary nature of this response.
- Discuss the underlying ethical issues involved in the climate change and health crisis, and specific roles for individuals and communities.

Course content

Unit 1: Biodiversity and its conservation **5 Hours**

- Basic concepts and importance of biodiversity
- Biodiversity and biotechnology.
- Basic concept on protected areas
- Strategy of protecting biodiversity.
- Challenges to the preservation of biodiversity

Unit 2: Natural resources, use, and exploitation **5 Hours**

- Type of Natural resources
  - Renewable
  - Non-renewable
- Rational use of natural resources
- Exploitation of natural resources
- Types of energy and its application in context of Nepal

Unit 3: Emerging global environmental health problems **6 Hours**

- Overview of global environmental problems (Radiation, Acid Rain, Ozone Depletion, Deforestation)
- Greenhouse effect, Global warming, and climate change
- Causes of Global warming and effect

- Relation of natural resource, health and environment

Unit 4: Health consequences of global climate change **10 Hours**

- Conceptualize weather and climate - changing human exposures
- Climate change and the wider determinants of health and disease
  - Socio-economic and environmental
  - National assessments of health impacts
  - Monitoring the health effects of climate change
  - Regional and national case studies
  - Climate Change in Developing Countries (social health, economic, political, biodiversity, cultural, weather point of view)
- Direct and indirect health effects of climate change
- Climate change and emerging infectious and vector diseases
- Critically appraisal of "Climate change does not stand alone. There will be exploration into the effects of climate on health will interact with other factors to delay reaching the Millennium Development Goals."
- Critically analysis of Climate change is natural calamities or manmade disruption

Unit 5: Global climate change: implications for international public health policy **6 Hours**

- Rethinking health in a changing environment: global strategy
  - Preventive environmental health interventions
  - Infectious disease surveillance and response
  - Environmental health in emergencies
  - Building capacity for health sector responses
  - Strengthening alliances for sustainable development
- International environmental convention and treaty
  - Declaration and strategy - Quito, Copenhagen and recent convention

Unit 6: Climate change adaptation **10 Hours**

- Adaptation and adaptive capacity in the public health context (Adaptation will require planning, and integration of multi-sectoral and multidisciplinary teams for effective response)
- Determinants of adaptive capacity
- Vulnerability assessment (Vulnerability to the health impacts of climate change is dependent on three variables: the degree of exposure to climate hazards; the sensitivity of the individual or population to the impacts; and the ability to cope, or adaptive capacity of the individual, population or community)
- Strategies for reducing vulnerability and strengthening adaptive capacity
- Climate and health information systems for strategic planning and reduction of risk

Unit 7: Strategies for mitigation **6 Hours**

- Greenhouse gas emission trends and global debates on cost-sharing, carbon trade
- Mitigation in the short, medium and long term

- Policies, measures and instruments to mitigate climate change
- Legal control
- Sustainable development and climate change mitigation
- Integrating climate change considerations into development policies

Teaching learning methods

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

- Didactic lecture: mainly on the basic concepts, principles and theories
- Presentations and seminars: mainly on the events and issues of debate and diverse opinions
- Self learning: mainly on the issues, where further explanations are desired and materials are easily available for reading.

Evaluation

Internal assessment in different forms 20%

Final examination 80%

Reference

1. State of the environment of Nepal, Kathmandu: ministry of pollution and Environmental Nepal.
2. MOPE\ICIMOD\UNEP [2002], Nepal: State of the Environment Report 2001, Kathmandu: UNEP\ICIMOD
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6. WHO (2010a). *Malaria costing tool*. Geneva, World Health Organization.
7. WHO (2010b). *Water and sanitation costing tool*. Geneva, World Health Organization.
8. WHO (2010c). WHO-CHOICE: Choosing interventions that are cost effective. Geneva, World Health Organization.
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health adaptation to climate change. Rome, World Health Organization European Centre for Environment and Health.

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16. Hindu Kush–Himalaya region: Report of a regional workshop. Delhi, World Health Organization Carbon trade guideline and policy
17. Differences manifesto of conference, Copenhagen, Quito etc
18. Vulnerability and Adaptation Assessment, Climate change and health, WHO

Course Title	Training and Curriculum Development	
Third Year	Sixth Semester	Course Code : BPH 306.4-TCD
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Description

This course offers an opportunity for conceptual understanding of training and curriculum development and its specific application in training and curriculum development. The course also provides opportunity to develop specific skills in the process of designing training courses and implementation and evaluation.

Learning Objectives

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

- Apply the concept of educational planning in the process of design, implementation and evaluation a training program.
- Carry out training need assessment, conduct training and evaluate the training program

Course Contents

Unit 1: Human Resource Training [HRT] 32 Hours

- Concept of health manpower training and education
  - Determining training needs:
    - Introduction of TNI and TNA
    - Level of training needs
    - Information for determining training needs
    - Methods of determining training needs
    - Instruments for training needs survey (tools)
  - Training process
  - Roles of training in HRD
  - Training cycle

- Types of training
  - Orientation
  - Pre-service training
  - In-service training (Basic and refresher training)
  - OJT
  - Specialized training
  - Special purpose training

- Training design:
  - Content development, lesson plan, material development and delivery.
  - Developing training program: module preparation
    - Preparing agenda
    - Setting/formulating training objective

- Development general plan for training
- Writing session objective
- Determine the training methods and technique.
- Determining resources
- Estimate the budget

- Selecting Training method according to need of the trainees.
  - Lectures
  - Brain storming
  - Role play
  - Game and simulation
  - Demonstration
  - Discussion \ workshop
  - Debates and seminar
  - Case studies

- Selecting Training media according to need of the trainees.
  Introduction, effectiveness, criteria
  - Audio
  - Visual
  - Audio-visual

- Implementation of training program
  Things to be done:
  - Before the program
  - During the program
  - After program

- Evaluation of training program
  - Concept of training program evaluation
  - Process of Training Evaluation
    - Setting intended standards
    - Measuring actual outcomes
    - Finding deviations
    - Corrective actions

  - Criteria for evaluating training effectiveness
    - Reaction criteria
    - Learning criteria
    - Behaviour criteria
    - Outcomes criteria

- Method of evaluating training effectiveness:
  - Observation method
  - Test related method
  - Pre-post performance method
  - Experimental control group method
  - Trainee surveys
- Training report writing

- Training of Trainers
  - Concept, definition, importance, objectives and types of ToT
  - Differences between MToT and GToT

- Overview, objective, function, types of training and activities of NHTC in training development

Unit 2: Curriculum Development **16 Hours**

- Introduction to curriculum development.
  - Definition of curriculum, curriculum development, curriculum design, lesson plan, instruction, syllabus
  - Principles of curriculum design.
  - Component of curriculum
  - The steps of curriculum development:
    - Educational purposes (aim, goal, objectives)
    - Educational experiences needed to attain these purposes (Criteria for selecting experiences & selecting curriculum content)
    - Organization of educational experiences
    - Evaluation
  - Different perspectives on curriculum development
  - Participants in curriculum development process

- Curriculum designs
  - Types of curriculum approaches
    - Subject-centered
    - Learner-centered
    - Problem-centered
- Types of curriculum models

- Content oriented
- Behavioristic model
- Process oriented
- Competency based
- The 'SPICES' model of curriculum design
- PRISMS model

- Evaluation
  - Evaluation of the outcomes of curriculum

Teaching learning methods

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

- Didactic lecture: mainly on the basic concepts, principles and theories
- Presentations and seminars: mainly on the events and issues of debate and diverse opinions
- Self learning: mainly on the issues, where further explanations are desired and materials are easily available for reading.

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References

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2. Agrawal, G R. (2005)"Human Resource Development in Nepal" Kathmandu.
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14. Rajbhandari, SP. "Development Administration and Training" Kathmandu: Educational Enterprise, 1993. Machillian Education Limited, 1988.
15. Various Training Manuals Program conduct by National Health Training Centre, Ministry of Health HMG. Kathmandu, Nepal.

Course Title	Health Economics and Health Financing	
Third Year	Sixth Semester	Course Code : BPH 306.5-HEHF
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Introduction

The course is designed to develop concepts on health economics and its various applications. The course attendants will learn how to apply the different principles of economics in public health. Students will develop economic viewpoints to identify and analyze the planning, implementation and evaluation of public health programs.

Course objectives

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

- Basic concepts of Health economics
- Principles and application of economics in public health
- Relationship of demand and supply of health care and its effect in price mechanism
- Techniques of cost analysis and economic evaluation of different public health programs
- Health budgeting and financing system of Nepal
- Concept and uses of different types of health insurance

Course Contents

Unit 1: Concept of Health Economics **10 Hours**

- Meaning, scope of health economics
- Principles of health economics
- Role of health economics in health policy and planning
- Factors effecting health and development
- Relationship between health and development
- Macro -economics and health and clinical economics
  - National health account
  - G.D.P. and G.N.P.
  - Total health care expenditure
  - Out of pocket payment
  - Contribution of government and external development partners
  - Impact of out of pocket payment
- Equity in health- vertical equity and horizontal equity
- Economic efficiency- allocative efficiency and technical efficiency; production possibility frontier (PPF)

Unit 2: Demand and Supply of health care **8 Hours**

- Concept of demand and supply; determinants; law of demand; law of supply; price mechanism
- Health care demand-
  - Consumers as a health producer
  - Health as a consumption good as well as investment good

- Role of education, income and other factors in health care demand
- Suppler induced demand-
  - Doctor's monopoly, medicalization of health, information asymmetry, moral hazards
  - Conditional cash transfer and performance based payment

- Elasticity of demand and supply- price elasticity, income elasticity and cross elasticity of demand and supply

Unit 3: Health Care Cost **6 Hours**

- Concept of different types of costs in health care;
  - Accounting cost, financial and economic cost;
  - Opportunity cost;
  - Direct and indirect cost;
  - Total, average, and marginal cost;
  - Capital and recurrent cost,
  - Fixed and variable cost,
  - Tangible and intangible cost,
  - Contingency cost ;
  - Short term and long term cost;
  - Explicit and implicit cost;
  - Historical and replacement cost;
  - Transaction cost and sunk cost.

Unit 4: Health Care Market **3 Hours**

- Market structure and market power
- The monopoly model and perfectly competitive market
- Health care as a free market/command market/mixed market
- Role of government in health care market

Unit 5: Economic Evaluation **4 Hours**

- Definition, importance, process and constraints of economic evaluation
  - Cost effectiveness analysis
  - Cost minimization analysis
  - Cost benefit analysis
  - Cost utility analysis

Unit 6: Health Care Budgeting **4 Hours**

- Concept of budgeting in health care, principle and characteristics of budgeting
- Types- Regular, development, recurrent, program and operating budget
- Overview of national health budget- preparation, screening, sanction and receipt of budget

Unit 7: Book Keeping and Auditing **3 Hours**

- Different methods: Single and double entry system
- Health care account- Concept, classification of accounts (real and nominal accounts, suspense accounts)
- Audit - Concept of audit, types of audit- internal/external

Unit 8: Health system and Financing **3 Hours**

- Concept, roles and functions of health system
- Concept of health financing
- Overview of health financing of Nepal

Unit 9: Health Insurance **4 Hours**

- Concept of health insurance
- Overview of health insurance
- Types of health insurance- private, community, social
- Terminologies used in health insurance- premium, co-payment, deductibles, co-insurance, exclusions, maximum limit, capitation, limited coverage, adverse selection, medical underwriting, moral hazard (demand /supply side)

Unit 10: Socioeconomic factors and determinants of health **3 Hours**

- Poverty
- Income distribution
- Education
- Employment
- Remittances
- Behaviour
- Demography

Teaching learning methods

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

- Didactic lecture: mainly on the basic concepts, principles and theories
- Presentations: mainly on the events and issues of debate and diverse opinions
- Self learning: mainly on the issues, where further explanations are desired and materials are easily available for reading.

Evaluation

Internal assessment in different forms 20%

Final examination 80%

References

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
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4. Mills A, Gilson L "*Health Economics for developing countries*" A survival kit, EPC publication number 17, summer 1988 (Reprinted August 1992)
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Course Title	Practical Skill Development (Health Service Management in Nepal)	
Third Year	Sixth Semester	Course code: PSD 306.1-HSMN
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

PSD is a course designed to deliver practical skills for the students to do necessary field visit and observation. Students will observe field based activities, 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 health service management in Nepal.

Details of PSD

Subject	Practical Hour	Content	Log or practical book
Health services management in Nepal	32	- Seminar or workshop organize on any health issue, programme, plan, policy, strategy, public health law other emerging issue, international scenario etc (Process of seminar is depicted below) - Preparation and submission of report to department	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must be bring practical log book/ report in final examination
- Final examination must be based on practical

Process of Seminar

- Preparation (Title, background, objective, venue, date, time)
- Develop invitation letter both English and Nepali
- list of participant- any from bachelor level health sciences college (high coverage of all college; teacher and student) DOHS/DHO/DPHO/PHCC/HP/SHP, NGOs/INGOs/Bilateral/social organization/consultant etc)
- Implementation
  - Inauguration session
  - Methods- Round table discussion, panel discussion, desk review, presentation, brain storming, note taking etc)
  - Sort out the findings
  - Sum up
- Report preparation and submission to public health department

Organization of Seminar

- Formation of groups
- Complete team work
- All management doing by student themselves (letter dispatch, communication, material management, venue management, refreshment, copy and printing, financial management)
- All the student must share all things in equality
- Supervision of student in terms of team working, sharing etc

Course Title	Term Paper Preparation (Public Health Administration and Management)	
Third Year	Sixth Semester	Course code: TPP 306.2-PHAM
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

TPP is a course designed to deliver practical skills for the students to do necessary field visit and observation. Students will observe field based activities, 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 public health administration and management.

Details of TPP

Subject	Practical Hour	Content	Log or practical book
Public health administration	**32**	- Study and preparation of report on POSDCORB model of any social welfare organization/business organization/NGO/INGO or registered organization with managerial analysis - Observe the recording, reporting, registration, reference in Nepali and English system in own college - Presentation and submission of report to public health department of concern college and respective institution	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must be bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Practical Skill Development (Training & Curriculum Development)	
Third Year	Sixth Semester	Course code: PSD 306.3-TCD
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

PSD is a course designed to deliver practical skills for the students to do necessary field visit and observation. Students will observe field based activities, 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 training and curriculum development.

Details of PSD

Subject	Practical Hour	Content	Log or practical book
Training and curriculum development	**32**	- At least 2 days training module preparation and development with detail lesson plan of any public and social health area - Development of training curriculum to specify the target participant - Organize the training programme within the college premise to the lower class and certification to them - Presentation and submission of report to department	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must be bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Term Paper Preparation (Health Economics and Health Financing)	
Third Year	Sixth Semester	Course code: TPP 306.4-HEHF
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

TPP is a course designed to deliver practical skills for the students to do necessary field visit and observation. Students will observe field based activities, 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 Health economic and health financing

Details of TPP

Subject	Practical Hour	Content	Log or practical book
Health Economics and Health Financing	**32**	- Development of financial proposal in any health related development, programme - Analysis of cost effective and cost recovery of different programme of health - Presentation and report to department - Select any one title, preparation, presentation and submission of term paper on health economics and health financing	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must be bring practical log book/ report in final examination
- Final examination must be based on practical

Fourth Year

Seven Semester

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

Course Description

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

Learning Objectives

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

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

Course Contents

Unit 1: Introduction to Research **2 Hours**

- Meaning, definition, purpose of research, quality and importance of research in public health
- Identification of research area and title finalization process

Unit 2: Types of research **4 Hours**

- Qualitative and quantitative research approach
- Descriptive, Analytical, Experimental research design
- Applied research
    - Formative research
    - Operational research
- Basic research

Unit 3: Research Problem **2 Hours**

- Selection criteria of the problem
- Sources of problems
- Examples of problems

Unit 4: Review of the literature **2 Hours**

- Process of search, documentation and reference style
- Uses of literature in research

Unit 5: Formulation of research objectives and hypothesis **4 Hours**

- Meaning and types of research objectives
- Definition of research hypothesis
- Purpose of research hypothesis
- Types of hypothesis
- Variables [independent and dependent]
- Operational definition.

Unit 6: Research design **8 Hours**

- Meaning of research design
- Need for research design
- Features of good research design
- Type of research design
    - Case study
    - Ecological study
    - Cross sectional study
    - Case control and nested
    - Cohort
    - Interventional Research (Pre-Experimental, Quasi-Experimental and True Experimental -RCT/clinical trial
        - Basic Concepts on Clinical Trials: Cross over, parallel design, community trials and blinding
    - Time Series Design

Unit 7: Sampling design and procedures **4 Hours**

- Census
- Sample
- Selection of sampling design
- Sampling frame
- Reference, target and study population
- Determination of sample size
- Sampling techniques

Unit 8: Instrumentation **6 Hours**

- Measurement of statistical data
- Estimation and testing of Hypothesis
- Qualitative and quantitative approach of instrumentation
    - FGD, IDI, KII, PRA/PLA, Observation
    - Questionnaire schedule
- Pre- testing and its importance
- Reliability and validity
- Pilot study
- Data collection process
    - Primary methods of data collection: Interview, mailed questionnaire, observation, and objective test.
    - Secondary methods of data collection: Data from office records of institutions, journals, bulletins.

Unit 9: Data Processing **2 Hours**

- Quantitative approach
    - Coding and decoding, editing and feeding
    - Data cleaning
    - Preparation of master tables\Dummy table
- Qualitative approach
    - Sorting, Narrative, triangulation
    - Content analysis, meta analysis

Unit 10: Analysis of data and findings **6 Hours**

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

Unit 11: Preparation of Report **4 Hours**

- Concept, Meaning, objective, importance
- Layout of research report
- Difference between Research Report and Research Paper
- Scientific report writing, Manuscript and abstract
- Element/body of report
- Qualities of good report
- Process of report

Unit 12: Research Ethics and publication 4 Hours

- Basic Concepts on Research Ethics and its Principles
- Milestones of Research Ethics in Nepal, and National Ethical Guidelines of Health Research
- Concept of IRB
- Function of ERB of NHRC
- Concept and importance of publication in professional career
- Introduction and types of journal, list the index journal publish in Nepal

Teaching learning methods

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

- Didactic lecture: mainly on the basic concepts, principles and theories
- Presentations and seminars: mainly on the events and issues of debate and diverse opinions
- Self learning: mainly on the issues, where further explanations are desired and materials are easily available for reading.

Evaluation

Internal assessment in different forms 20%
Final examination 80%

Recommended Books

1. Health Research methodology, WHO
2. Tandan M. and Thapa J., A Text book of Public Health Research Methodology.
3. Fisher, A Laring , J and Stokle, J. "Hand book for family planning Operations Research Design" Population Council, 1991.
4. Kothari CK "Research Methodology", Willey Eastern Limited [Fourth reprint 1989.]
5. Gyawali K and RegmiB, Health research methodology, 2012
6. Kleinbam DG, Kupper LL, Morgenstem "Epidemiologic Research- Principles and quantitative Methods ". Van Nostrand Reinhold, New York, 1982.
7. Moser C and Kalthon G "Survey Methods in social investigational" EL. BS. 1979.
8. Pradhan. HB. " A Textbook of Health" Educational Resources for Health [Second ed] Kathmandu. 1996.
9. Stpehen I. and Michael WB. Hand book in research and evaluation" Edits Publishers. San publishers, San. Diego. California seventh print 1976.

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

Course Description

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

Learning Objectives

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

- Knowing about urban health, healthy city and component of urban health
- Understand the science and engineering aspects of landfill, biological treatment and thermal treatment options;
- Able to know about the meaning of disaster, its management and health effects
- Student are able to management in public health perspective of construction of city, its healthy behaviour and mitigation strategy of disaster and response in emergency

Course content

Unit 1: Urban health **16 Hours**

- Urbanization
  - Concept, definition and scope of urban environment
  - Process of urbanization
  - Global urbanization: trends, patterns, determinants, indicators of good urban environment and impacts
  - Urbanization in context of Nepal, interexchange of urban resources
  - The urban environment and health in developing countries and in Nepal
  - Urban social environment and characteristic of socio health environment
  - Green revolution in urban context and its importance

- **Measures of Urbanization**
  - Terminologies of urbanization
  - Measures of urbanization
    - Percentages of population in urban areas
    - Ratio of urban and rural population
    - Size of locality of residence of the median inhabitant
    - Mean city population size
    - Tempo of urbanization

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

Unit 2: Public health engineering **16 Hours**

- Introduction
  - Concept, scope, use of public health engineering, its application Nepalese engineering construction and development
  - Public health importance and its critiques of intervention in engineering system
  - Major public health engineering construction in Nepal
  - Merits and demerits of public health point view of engineering,

- Management engineering of sanitary disposal system
  - Concept, definition, public health importance, types of toilet (classical and modern) and its description, toilet construction system in mass people displacement, importance of biogas engineering, its type and promotion of public health in rural setting

- Water Engineering
  - Network design and distribution of water supply system, treatment operation and management, issues of social equity in water supply in mega city of Nepal, Public health aspects of water engineering of water and sanitation division.

- Public health aspects of house engineering
  - Criteria of hygienic house, ventilation engineering, code of house building,
  - Merits of house engineering and its significance in disaster

- Waste management engineering
  - The current generation rates for major waste streams, collection and potential recycling options.
  - Solid waste engineering options

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

Unit 3: Disasters Management **16 Hours**

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

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

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

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

- Disaster Associated Health Issues – Emergency Health Services and Diseases
  - Introduction
  - Emergency Health Services in Disasters

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

Teaching learning methods

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References

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

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

Course Description

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

Learning objectives

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

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

Course Contents

Unit 1: Introduction to logistics management **4 Hours**

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

Unit 2: Procurement, Inventory and Supply chain Management **6 Hours**

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

- Introduction to public procurement
  - The scope and nature of public sector
  - Meaning of public procurement
  - Differences between public and private procurement
  - The goals of government and procurement objectives

- Procurement and process
  - Procurement planning
  - Solicitation
  - Evaluation,
  - Contracting and contract management

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

Unit 3:Inventory Management Supply Chains **6 Hours**

- Inventory Management Supply Chains
  - Definition of Inventory, Vendor, or supplier
  - Principles of inventory management
  - Inventory flows and supply chains
  - Planning and forecasting

- Warehousing and inventory management
  - Principles of stores and warehouse management
  - Store management process- ASL, EOP, LIFO and FIFO

- Tender or Bidding
  - Concept, types and process of budding
  - Current process of bidding, constraints, and issues
  - New approach of bidding: E-bidding (logistic)

- Importance, merits and demerits of e-procurement
- Types and forms of e-procurement

- Overview of contract law

Unit 4: Documentation **2 Hours**

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

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

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

Unit 6: Informatics **6 Hours**

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

Teaching learning methods

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References

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

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

Course description

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

Learning Objectives

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

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

Course Contents

Unit 1: Public Health Ethics **13 Hours**

- **Introduction**
  - Concept of ethics, importance of ethics in public health professional, difference between ethics, rules, regulation and law, brief overview of history of ethics of public health

- **Considerations of ethics and brief terminology**
  - Defining the Good, Virtue Ethics, Situation Ethics, Care Ethics
  - Moral worth, types of moral worth
  - Paternalism, Plagiarism, Patent right, Autonomy, Competence and Decisional Capacity, Truth-Telling , Pluralism and Healthcare Professionals

- **Patients, Society and Healthcare Professionals ethics**
  - Health care professionals as their patients' friend
  - Equalities in cultural and linguistic
  - Confidentiality
  - Conflicts of interest
  - Consent
  - Health care professionals as citizens
  - Health professionals and their lives

- **Community ethics**
  - Ethical justice and rights
  - Ethical role of the community
  - Communication ethics, respect ethics, language ethics, cultural ethics
  - Code of conduct of public health professional
  - Individual liberty and community benefit,
  - Use of evidence
  - The ethics of resource allocation in community

Unit 2: Professional Development **16 Hours**

- **Concept, definition, function, and relation with professional development**
  - Listening Skills
  - Time Management
  - Personal Productivity
  - Making Effective Decisions
  - Conducting Effective Meetings
  - Leadership Style and role model
  - Inter Personal Relationship (IPR)
  - Resolving Conflict
  - Importance, way of Response and Feedback
  - Organizational Image
  - Customer Satisfaction
  - Aligning Technology with Organizational Strategy
  - Communication and interpersonal development
  - Media mobilization and utilization
  - Attachment, registration with professional organization (NHPC, NePHA other professional organization)

- **Core function and competencies of public health in relation to professional development**

Unit 2: Consumer health **12 Hours**

- Meaning of consumer, concept of consumer health and consumer right
- Element of consumer health and right
- Major consumer health issues in Nepal

- **Consumer Health Issues**
  - Service related issues
    - Misleading information
    - Issues in healthy products
    - Issues in accessible of health services
    - Problems with costs and access

  - Health related issues
    - Disease related issues
    - Hygiene and sanitation
    - Vulnerability and hazards
    - Quality service and product and their effect on public health

  - Consumer behaviour issues
    - Need for consumer protection
    - Intelligent consumer behaviour
    - Unhealthy behaviour
    - Psychological manipulation

- **Consumer protection in Nepal**
  - Quality control of health service, quality of drug, misleading impact on consumer
  - Overview of consumer protection law of Nepal and its implication
  - Quality assurance department of DoHS
  - Other government agency for controlling mechanism of quality goods (Roles and responsibility of Department of commerce, Department of quality assurance and weight measurement)
  - Industry Self-Regulation

Unit 3: Social health justice **7 Hours**

- **Introduction**
  - Concept, definition, scope and, its important in health service delivery, example of injustice in health care delivery
  - Health law: Nature, implementation strategies and challenges
  - Difference between law, fundamental right, human right and justice
  - Critiques of Justice is one of the mechanism of social harmony and decrease conflict

- Component of justice
    - Equity, Equality, Fairness, Inclusion, Opportunity, Rights
    - Moral agency, action
    - Equal treatment as natural law
    - Removing barriers
    - Impartiality

Teaching learning methods

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

Reference

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

Course Title	Practical Skill Development (Public Health Research)	
Fourth Year	Seventh Semester	Course code PSD 407.1-PHR
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

Students will observe the lab and field based demonstration, collection of information, collation 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 public health research.

Details of PSD

Subject	Practical Hour	Content	Log or practical book
Public health research	32	- Three research topic with objectives and rationale presentation - Selection of research topic for successive semester for preparation of research report. - Student must started the proposal development activities and submission of proposal on selected research title	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Research Responsibility

- Student must started the proposal development activities and submission of draft proposal and presentation
- College must recruit the individual guide to individual student of research purpose
- Student must follow the guideline given in annex

Course Title	Term Paper Preparation (Urban Health, Public Health Engineering and Disaster Management)	
Fourth Year	Seventh Semester	Course code: TPP 407.2-UHPHEDM
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

Students will observe the lab and field based demonstration, collection of information, collation 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 urban health, public health engineering and disaster management.

Details of TPP

Subject	Practical Hour	Content	Log or practical book
Urban health, public health engineering and disaster management, and ethics	32	- Engineering layout/sketch of public health engineering (land fill site, preparation guideline and healthy house and city development frame) - Demonstration of modern types of toilet - Development of short report on engineering, health home, sanitation aspects, disaster aspects of security concern of house, implementation of code of house development of your own house or rent house where you are living now, presentation and submission on title of my house and my security - Term paper preparation and presentation on respective health related issues in nationally and internationally - Preparation and submission of report to department	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Term Paper Preparation (Public Health Ethics, Social Health and Professionalism)	
Fourth Year	Seventh Semester	Course code TPP 407.3-PHESHP
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

Students will observe the lab and field based demonstration, collection of information, collation 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 public health ethics, social health and professionalism.

Details of TPP

Subject	Practical Hour	Content	Log or practical book
Public Health Ethics and Professional Development	20	- One month professional development time (process describe below) - Preparation of report, submission to department and Report dissemination process	Maintain
Consumer and social health justice	12	- One day concurrent mini sample study about consumer health from market (food, right of information) around the college or home - Preparation of report and submission to department - Group term paper preparation and presentation on national health policy and plan system, climate change and health	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Process of one month professional development time

1. The time of professional development month time announced by public health department

2. One log book including the below indicator (could add other indicator as per need) will be provided individually by department and all the student need to update.
3. The evaluation will be triangulate
    - Log report submitted by student ownself
    - Log report submitted by classmate him/her self
    - Record keeping by department them selves
4. All students must be participated in this process. Following indicator will be evaluated as a part of professional development
    - Time management (On time class attendance, and signature, full time participation)
    - Communication (politeness, respectful and appreciative in a way)
    - Documentation (completion of home assignment, report in exact time)
    - Writing (At least one professional activities need to be completed and submission of evidence report to department (Article publication, research report publication in any journal, national, regional, district news paper, in any FM, interview or in wall news paper of respective college)
    - Discipline (complete wearing of college dress, record on case of battery, quarrels, conflict with friends and other)
    - Participate in all the evidence organized by college
5. The evaluation process was separately conducted by department and one of your friends in the class room but there is completely enclosed the information of evaluator
6. The final report (include log book provided earlier also) will be submitted separately and department will disseminate the professional development ranking of each student.

Process and area of mini sample study

- Instrument development
- Execution field
- Retailer shop, hotel and restaurant, sweet house, clinic, hospital, public and private institution, departmental stores, other service provider place by using concern questionnaire, checklist related consumer health, consumer right, service accessibility
- Report preparation and submission

Course Title	Practical Skill Development (Comprehensive Public Health Management Field Practice)	
Four Year	Seventh Semester	Course code: PSD 407.4-CPHMFP
Credit Hours: 5	Full Mark: 100	Pass Mark: 60

Course Description

The purpose of this course is to provide the students an opportunity to develop skills, which will make them competent public health professional with the ability to identity health problems and needs in the community. The course also aims to develop the basic skills in the students to assess resources potentiality and constraints, priorities the health problems and set strategies for solving them develop, or assists in developing suitable options and action plans for addressing the priority health problems in district and carry out supervision, monitoring and evaluation for developing actions plans for feasible and effective solutions to problems identified and detected through monitoring and evaluation.

Learning Objectives

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

- Explore health problems in the districts, including determinants of the problems to prepare a district health profile.
- Assess existing or potential resources for addressing health problems, as well as constraints, which may hinder successful application of solutions.
- Prioritize health needs of the district 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.
- Co- ordinate health and non- health sector activities in order to accomplish health service goal.
- Observe organizational management skills including enterprising and leadership abilities in the following areas of: Inter and intra sector co- ordination.
- Direction, training and motivation of subordinate or health personnel.
- Supervision and monitoring if different health personnel and work- activities towards achieving objectives.
- Development of a sense of tem sprit and taking collective responsibility and participation in fulfilling goals and objectives of the District Health Office.
- Observation and understanding of appropriate recording and reporting system –assist establishing a workable to way referral sys from the grass- roots level through health posts of district hospital and back down.
- View himself\ herself as qualified public health Professional able to act as an adviser and counselor in public health management, public health services, and health services research.

Course Contents

Unit 1: Program Activities **6 Hours**

- Rationale for field program activities
- Orientation to the district chosen for fieldwork and logistics.
- Orientation to the field activities.
- Over view and networking of district level organizations and their health related activities (DPHO, DDC, Water Supply, Agriculture, Education, Red Cross, CDO, FPAN, other NGO, INGO, hospital and other health related organizations of the district) which are directly and indirectly related to health and related issues of the district.

Unit 2: Preparation of Management Profile of District Health Problem **8 Hours**

- Major health problems of the district.
- Health planning Process and programmes/projects in district level
- Health services organization structure.
- Staffing patterns
- Coordination with other related organizations (line agencies, NGOs, INGOs).
- Supervision and monitoring system.
- Budgeting
- Health management instruction system.
- Logistics system
- Recording and reporting system.

Unit 3: Critical Appraisal of Health Management Profile **14 Hours**

- Critically analyze the status, strength and weaknesses of each of the management components mentioned above using POSDCORB format.
- Watch closely and deeply observe oral manger's work activities in the organizations towards goal achievement.
- Prepare suggestions for alternative strategy or re-strengthening the management component of overcoming the weakness for better management.
- Activities
  - Epidemiological study on public health problem in a district
  - Five year plan of public health issues based on findings
  - Organize a seminar to present a health management profile of organization in district/Collage

Unit 4: Mini Action Project (MAP) **4 Hours**

- Definition, Objective, Element and characteristics of MAP
- Process of MAP
- Evaluation of MAP

Practical Aspects 128 Hours

This is 30 days residential field stay based on different district headquarter with directly attachment with District Public health Office/District Health Office. Combined mixed group formation around ten students in each group from discussion and ready for field practice. During this stay students need to develop one comprehensive district profile incorporating all information taught in theoretical aspects. This residential based practical could help to gain the evidence based process of district health management and documentation process. Student need to analyze the health situation and selecting one problem to conduct the mini action project. At last they need to develop one combined black binding (Hard copy) report in three copies. The report content is attached in annex. All the college need to follow this format for unification and uniformities.

Unit 5: Process of conducting mini action project

- Apply the knowledge and skills learned in various disciplines of health sciences (epidemiology, bio-statistics, health education, nutrition, school health, health & environment, family planning, MCH, etc) to develop community based individual micro-health project.
- Selecting one problem which student could manage on their local resource on innovative way
- Develop a mini action project with objectives formulated on the prioritized basis of problem and health needs.
- Implement the mini action project developed as above.
- Evaluate mini action project developed as above.
- Evaluation mini action project and give suggestion and recommendations.

Unit 6: Preparation and submission of field study reports

- Prepare baseline demographic and health profile of the district acquired from secondary data on the basis of which write additional specific papers on the following.
- A comprehensive plan to improve the effectiveness of specific aspect of the district health system.
- Student need to presentation by process
    - Preliminary findings presentation in district
    - Conduct mini action project, epidemiological study, prepare five year plan in district
    - Final presentation in district
    - College presentation in college premise

Reporting format as per Annex directives

Teaching learning methods

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

References

1. DoHS. Recent Annual report. Department of Health Services.

Fourth Year

EightSemester

Course Title	National Health Policy and Plan	
Fourth Year	Eight Semester	Paper : BPH 408.1-NHPP
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Description

This course provides an opportunity to the students to get acquainted with the history of national health policy and plan in Nepal. The course helps the students to better conceptualize the national health policy and how the policy has back enacted at the central, district and grass root levels.

Learning objectives

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

- Learn history and the process of development of health plans and policies in Nepal.
- Understand the history and the process of development of health plans and policies in Nepal.
- Understand brief information about the existing policies and plans
- Develop critical understanding about the strengths and limitations of the policies and plans
- Impart knowledge about the changing political context (nature of state) in the country and the priority shifting of health policies and plans

Course Contents

Unit 1:History of Development of health plans **8 Hours**

- Pre-planning period
- Five year plan periods
- First Long Term Health Plan (1975-1990)

Unit 2: Current National Health Policy **4 Hours**

- Concept of health policy
- Context of development of health policy
- Overview on national health policy 1991
- Areas addressed in the policy
- Strengths and limitations

Unit 3: Health policies and Plans (Introduction, objectives, strategy and critical analysis)
36 Hours

1. Second Long Term Health Plan (1997-2017)
2. National Safe Motherhood Policy 1998

3. Millennium Development Goals (2000-2015)
4. National Safe Abortion Policy 2002
5. National Safe Motherhood Plan 2002-2017 (Revised Safe Motherhood and Neonatal Health Long Term Plan 2006-17)
6. Human Resource for Health strategic plan 2003-2017
7. Nepal Health Sector Strategy – An Agenda for Reform 2004
8. National Neonatal Health Strategy 2004
9. National Nutrition Policy and Strategy 2004 (Revision in 2008)
10. National HIV/AIDS strategy (2006-2011)
11. National Policy on Skilled Birth Attendants 2006
12. National Blood Transfusion Policy 2006
13. Free Health Care Policy 2006
14. National School Health and Nutrition Strategy 2006
15. Three Year Interim Plan (2007/8-2009/10)
16. Nepal Health Sector Programme – Implementation Plan II (2011-2015)
17. Human Resource for Health Strategic Plan 2011-2015.

Teaching learning methods

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

Evaluation

Internal assessment in different forms	20%
Final examination	80%

References

1. Nepal's Quest for Health – Hemang Dixit
2. National HIV/AIDS Policy 1995, MoHP
3. Second Long Term Health Plan (1997-2017), MoHP
4. National Safe Motherhood Policy 1998, MoHP
5. Local self governance act 1999, Nepal Government
6. Millennium Development Goals 2000-2015, Millennium Summit Document
7. National Safe Abortion Policy 2002, MoHP
8. National Safe Motherhood Plan 2002-2017 (Revised Safe Motherhood and Neonatal Health Long Term Plan 2006-17), MoHP
9. Nepal Health Sector Strategy – An Agenda for Reform 2004, MoHP
10. National Neonatal Health Strategy 2004, MoHP
11. Nepal Health Sector Programme – Implementation Plan I (2004-09), MoHP
12. National Nutrition Policy and Strategy 2004 (Revision in 2008), MoHP
13. National Policy on Skilled Birth Attendants 2006, MoHP

14. National Blood Transfusion Policy 2006
15. Free Health Care Policy 2006, MoHP
16. National School Health and Nutrition Strategy 2006, MoHP and MoE
17. Three Year Interim Plan (2007/8-2009/10), Nepal Government
18. Nepal Health Sector Programme – Implementation Plan II (2011-2015), MoHP
19. MoHP 2011. Human Resource for Health Strategic Plan 2011-2015.

Course Title	Human Resource for Health	
Fourth Year	Eight Semester	Course code: BPH 308.2-HRH
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course description

This course offers an opportunity for conceptual understanding of human resource development (HRD) and its specific application in human Resource for Health (HRH) development. The course attendants will attend lecture sessions as well as participate in seminar classes to discuss the modern concepts, principles and strategies of HRH in the context of national health manpower development of Nepal.

Learning Objectives

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

- Describe the modern concepts of planning, production and utilization of Human Resource of Health.
- To conceptualize the role of various agencies in HRH planning in Nepal
- Critically analyse the HRH concept as applied in the context of Nepal.

Course contains

Unit 1: Introduction to human resource and development 8 Hours

- Concept and definition of HR and HRD.
- Function of HR and HRD
- HRD in the context of organizational development
- Interrelationship among the planning, production and utilization (management) cycle in HRD.
- Pre-requisites for HRD.
    - On the basis of statistical need
    - Leadership readiness.
    - Enabling legislation
    - Administrative capacity
    - Political dimension

Unit 2: Human Resource for Health (HRH) planning 18 Hours

- Conceptualizing planning in the context of health
- Analysis of health care needs in the country
    - Demographic tends
    - Epidemiological trends
    - Socio-economic trends
    - Development of scientific and technical capability.

- Estimating of HRH.
    - Market oriented method.
    - Service Target / Panel expert.
    - Economic demand method
    - Statistical method.
    - Need based Requirement and manpower projection

- Overview, objective, strategies, targets, challenges and critical appraisal on National strategic plan for HRH

- Role of various institution in support to HRH planning
    - National Planning Commission
    - MOHP / Ministry of Education
    - Universities/Health Science Institutions

- Critical analysis of the existing HRH planning process in the context of national health services system of Nepal. HRH planning models from other countries.

Unit 3: HRH Production **12 Hours**

- Concept and definition of HRH production
    - Demand and supply of Human Resources
    - Role of public and private sectors

- Analysis of manpower situation (public and private sectors)
    - Mismatch among various categories and levels of HRH.
    - Gap between demand and supply analysis.
    - Critical analysis of mal and mis-distribution of HRH in the context of Nepal.
    - Preventive, curative, promotive/rehabilitative human resources for health.

- Interrelationship between health services system and education system
    - Co-ordination between Ministry of health and Ministry of Education in producing High level HRH, Mid level HRH, Grass root level HRH.
    - Critical analysis public private mix in the production of HRH for Nepal.

- Role of NHPC, NMC, NNC, NPC, NAMC
    - Overview on objective, function and role in quality assurance in HRH production

Unit 4: HRH Utilization **10 Hours**

- Concept on HRH management and utilization
  - Recruitment Procedure
  - Selection and deployment
  - Employment motivation
    - Promotion and gratitude
    - Reward/ Punishment
    - Job Security
    - Staff career development
  - Concept, component and importance of job description, JD of D/PHO

- Role of health care service system in HRH utilization
  - National health services system -primary, secondary, tertiary levels.
  - Role of private sectors

- Concept, objective, role, function, importance and critical appraisal application
  - HuRDIS - (Human Resource Development Information System)
  - PIS- (Personal Information System)

Teaching learning methods

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

Evaluation

Internal assessment in different forms 20%
Final examination 80%

References

1. Byars, Ll Rue LW Rue "Human Resource Management" Boston: Richard D. Irwin, IMG, 1991.
2. Strategic plan for HRH 2003-2017
3. Human resource for health planning, WHO
4. Act of different Councils
5. Regmi B, Human resource for health and development
6. Second long term health plan 1997-2017
7. Hornby, P et al, "Guidelines for Health Manpower Planning" Geneva: WHO, 1980.
8. Hall, TL and A Meija (Eds.) "Health Manpower Planning" Geneva: WHO 1980
9. Pradhananga, YP "Health and Health Care in Nepal" (in Nepali) Bhaktapur.
10. Wearther, WB Dawis K "Personnel Management and Human Resources" New York: MC Graw Hill, 1985.
11. WHO Development of Educational Programmes for Health Personnels, Geneva. 1977.

Course Title	Project Management	
Fourth Year	Eighth Semester	Paper : BPH 408.3-PM
Credit Hours: 3	Full Mark: 100	Pass Mark: 50

Course Description

Project Management equips the business professional with leading methodologies and practices in the health project management field. Public health professional need to manage different health related programme intervention, development and evaluation. Professionals need to accompany the knowledge about the project management and this chapter describes all the matters of project management. Project management is a requirement for professionals in many fields, with many employers now identifying project management skills as vital for corporate success.

Learning Objectives

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

- Define and explain project management and project leadership.
- Understand and apply the sequential steps of the project management framework.
- Understand the importance and function of project management and apply the project process of initiating, planning, executing, controlling and closing the project.
- Define the roles of the project manager, the project team member and effectively communicate with the project team, clients and customer (sponsor)
- Apply knowledge and skills to manage the project scope, project time and work flow, project cost and budgets, project resources, project quality, project human resource requirements, project communication (reports, meetings, correspondence, etc.) project changes and project risk management.
- Understand the critical people skills needed to lead projects.
- Prepare a project charter.

Course Content

Unit 1: Introduction to Project Management **4 Hours**

- Concept and definition of project, program
- Project management, benefit and limitation of project management
- Project Constraints
- Understanding the Nature of Projects
- Project Identification
- The Project Life Cycle
    - Formulation Phase
    - Planning Phase (Developmental Phase)

- Implementation Phase
- Termination Phase

Unit 2: Project formulation **2 Hours**

- The Project Initiation Stage
- Literature review
- Identifying What has Triggered your Project
- Determining Project Goals
- TOR, RFP

Unit 3: Project planning and development **10 Hours**

- Project planning and developmental process
  - Understand project objectives
  - Identify key project stages
  - Prepare work break down structure
  - Determine logical sequence of activities
  - Estimate time and resource requirements
  - Allocate responsibilities for each activity
  - Finalize project plan

- Models of Project Planning
  - Concept and definition of project planning, importance of project planning
  - Approach of project planning
    - Conventional Methods
    - Logical frame work approach in project planning- Concept, definition and major steps in LFA
      - Situation Analysis
      - Strategy Analysis
      - Project Planning Matrix
      - Implementation
  - Meaning of log frame, element of log frame and development of log frame matrix
  - Time management and development of work plan/GANNT chart, Its importance in project management

- Project Budgetsources
  - Concept and definition of budget
  - Importance of funding, source of funding
  - Transparency of project fund process
  - Types of fund

Unit 4: Project Implementation Phase **8 Hours**

- Implementation
  - Concept, phase of implementation
- Control
  - Project Control
    - Monitoring and control
    - Evaluation
- Monitoring
  - Institutional Monitoring
  - Context Monitoring
  - Results Monitoring
  - Objective Monitoring
  - Project Monitoring Matrix

- Control
  - Financial control process
  - HR control process
  - Activities control process

- Evaluation
  - Programme evaluation
    - Baseline study
    - Annual review
    - Mid-term evaluation
    - Final evaluation
    - Ex-post evaluation
  - System evaluation
    - Input, process and output

Unit 5: Project Termination Phase **2 Hours**

- Concept of termination, importance of termination
- Process of termination
  - Termination handover
    - Project termination evaluation and its component
    - Project sustainability and its importance
  - Project end

Unit 6: Project analysis **8 Hours**

- Concept of project analysis, benefits of analysis
- Meaning of efficiency and effectiveness
- Meaning of output, outcome, effect and impact analysis

- CPM and PERT analysis
- SWOT analysis
- Overview of EIA

Unit 7: Risk management of project **6 Hours**

- Strategy change agenda
- Planning the Quality Element
- Decision Making and Risk Taking Skills
- Quick information
- Contingency plan
- Updating Project Assumption & Time Constraints

Unit 8: Reporting **4 Hours**

- Definition and importance in project intervention
- Difference between reports and reporting
- Types of reporting (Inception, Initial, mid time, draft and final reporting)
- Mechanism of reporting and feed back

Unit 9: Project proposal **4 Hours**

- Concept and its application
- Types of project proposal
  - Technical proposal
  - Financial proposal
- Components of Technical proposal
- Layout of Project proposal
- Proposal Evaluation Criteria
  - Relevance and effectiveness
  - Feasibility and efficiency
  - Impact
  - Sustainability
  - Capacity (HR and organizational)

Teaching learning methods

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

Evaluation

Internal assessment in different forms	20%
Final examination	80%

References

1. Health Project planning and management, WHO
2. A, Govinda, Project management
3. S, Choudhary, Project management, Tata McGraw-Hill publishing company limited
4. Health project planning and management, Binod Regmi, 2012
5. Adams, John R., Principles of Project Management. 1996. Project Management Institute Publications, Sylva, NC. ISBN 1-880410-30-3 (pbk).
6. Regmi B, Project Management and Development
7. 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
8. Kerzner, Harold, *Project Management:* Project Management: A Systems Approach to Planning, Scheduling, and Controlling , *10th edition*, Wiley, 2009, ISBN 0-470-27870-6
9. Larson, Elizabeth and Richard, *Requirements Management, Part 1: Requirements Planning*Watermark Learning, Inc., 2009, ISBN 978-0578019598
10. Lewis, James, The Project Manager's Desk Reference, *3rd edition*, McGraw-Hill, 2006, ISBN 0-071-46464-6
11. Martin, Paula, Tate, Karen, *The Project Management Memory Jogger: A Pocket Guide for Project Teams* , GOAL/QPC, 1997, ISBN 1-576-81001-1
12. Meredith, R. Jack and Mantel, Jr., Samuel J., Project Management: A Managerial Approach , *7th edition*, Wiley, 2008, ISBN 0-470-22621-8
13. Project Management Institute, *A Guide to the Project Management Body of Knowledge: (PMBOK® Guide)* , *4th edition*, PMI, 2008, ISBN 1-933-89051-7
14. Schwalbe, Kathy, Information Technology Project Management (with Microsoft® Project 2007 CD-ROM) , *6th edition*, Course Technology, 2009, ISBN 0-324-78692-1
15. Weiss, Joseph and Wysocki, Robert, Five-phase Project Management: A Practical Planning And Implementation Guide , Basic Books, 1992, ISBN 0-201-56316-9

Course Title	Term Paper Preparation (National Health Policy and Plan)	
Fourth Year	Eight Semester	Course code: TPP 408.1-NHPP
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

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 and public health department. Students will acquire practical knowledge and skill on national health policy and plan.

Details of TPP

Subject	Practical Hour	Content	Log or practical book
National Health Policy and Plan	32	- Individual term paper presentation on national health plan and policy with critical appraisal - Preparation and submission of report to department	**Maintain**
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Term Paper Preparation (Human Resource for Health)	
Fourth Year	Eight Semester	Course code: TPP 408.2-HRH
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

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 and public health department. Students will acquire practical knowledge and skill on human resource for health.

Details of TPP

Subject	Practical Hour	Content	Log or practical book
Human Resource for Health	**32**	- Development of comprehensive critical review of HRH situation of any organization (College, INGOs/NGOs, CBO, Government etc) - Development of planning, production and utilization plan based on the situation study of above organization. - Current situation of health workforce in aspects of planning, production and utilization in context of Nepal and critical review - Preparation, presentation and submission of report to department	**Maintain**
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Practical Skill Development (Project Management)	
Fourth Year	Eight Semester	Course code: PSD 408.3-PM
Credit Hour: 1	Full Mark: 50	Pass Mark: 30

Course description

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 and public health department. Students will acquire practical knowledge and skill on project management.

Details of PSD

Subject	Practical Hour	Content	Log or practical book
Project management	32	- Development of comprehensive project proposal in any health and social issues - Presentation of proposal and submission of report to Public health department with hard and sift copy - Extraordinary proposal will be awarded by department with special certification process (Finalization through independent evaluation team)	Maintain
Total practical : 32 Hours			

Maintain process of log or practical book

- Write practical specific detail description, process and drawing with manually
- All practical should signature by respective teacher and head of the department
- All student must bring practical log book/ report in final examination
- Final examination must be based on practical

Course Title	Practical Skill Development (Public Health Research Report)	
Fourth Year	Eighth Semester	Course Code : PSD 408.4-PHRR
Credit Hours: 6	Full Mark: 200	Pass Mark: 120

Course Description

This course has been designed to equip the student with the basic research tools and methods in public health sciences. The course aims to develop practical skill of development research proposal by analyzing the public health issue. More ever, students have got practical knowledge about data collection, management, analysis and presentation of data including the preparation of research report. The attendants of the course will be able to design and conduct public health research activities in the field to generate relevant information, which can be used for the improvement of the public health program in the country.

Learning Objectives

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

- Explain the meaning purpose and importance of research in public health sciences.
- Deliver skill on basic terminology used in research
- Skill enhance development of research proposal
- Implementation of various types of research methods applicable in public health sciences.
- Apply qualitative and qualitative techniques of health research
- Skill enhance in communication and establishment of rapport, collection of data, management and analysis
- Produce a research report on selected issues in public health

Course Contents 192 Hours

Unit-1: Process of research

- Selection, presentation and finalization of research title Development of proposal
- Presentation of proposal
- Receiving of approval and ethical consideration letter from concern institution and other institution if necessary
- Approval taken from concern authority of field activation
- Collection of data
- Data coding, decoding, feeding and cleaning
- Analysis of data
- Development of report, correction and re-correction from concern guide
- Development of draft report
- Presentation of finding
- Attending the final examination

- Incorporation of feedback
- Development of final report
- Submission of final report 3 copy of hard black binding to public health department

College should be provided the research guide individually and all the students must visit with respective guide for necessary guidance and keep recording of visit, purpose of visit, date of visit with signature). This record must be bring in final examination for evaluation of individually.

Annex I

Teaching setting environment

- Infrastructure should be according to guideline of Nepal health professional council
  - **Human Resources as per council**
  - **Lab setting as per council**
    - Basic sciences lab
      - ✓ Anatomy/ physiology /first aid
      - ✓ Microbiology/ biochemistry
    - Computer lab
    - Public health Lab
      - ✓ Nutrition and Health education lab
      - ✓ Environment and entomology lab

Annex II

Evaluation technique and tools

Questionnaire module (final theory examination)

For 100 no full marks three hours examination (80 final and 20 internal)

PU final examination (FM=80)

Long question, any three (4*10=40)

1
2
3
4
5

Medium question, any five (5*5=25)

1
2
3
4
5
6

Short question, any five (5*3=15)

1
2
3
4
5
6

For Practical Skill Development

For lab based practical

1. Provide the chose any practical question based on lottery
2. And write up everything in the answer sheet according to question and check with signature in given time
3. Demonstrate the practical exam as per question
4. Viva and vocal

For field/paper/seminar based practical

According to evaluation sheet, viva, record keeping (maintain of log book/practical file), presentation, defence, demonstration, explanatory, questionnaire answer sheet etc as per necessary

- Provide the chose any practical question
- And write up or answering everything in the answer sheet or verbally according to question and check with signature in given time
- Demonstrate the practical exam as per question
- Viva and vocal

Annex III

Guideline of formatting to every report

1. Font size
    a. Cover Title: 14-18
    b. Chapter title: 16
    c. Title: 14
    d. Sub-title- 12 Bold
    e. Text: 12
    f. Font: Times New Roman
2. Lines spacing-1.5
3. Bibliography/References- Harvard/Vancouver
4. Page set up- Margins: 1.25" on left- and 1"- on right, top and bottom
5. Preliminary pages the number will be in small roman letter
6. Start numeric page number from introduction,

Annex IV

Guideline of development of term paper

A. Preliminary Pages

- Cover page
- Recommendation letter
- Approval letter
- Acknowledgement
- Table of content
- List of tables
- List of figures
- List of abbreviation/acronyms
- Abstract: abstract should be attached before introduction.

B. Main body

1. Introduction
2. Objective of the study
3. Methodology
4. Results and Discussion
5. Conclusion
6. Recommendations

Bibliography/References

Appendix

Evaluation of Term Paper Presentation

Schedule		**Evaluation**			
Activities	**Time Allocated**	**Criteria**	**Marks Allocation**	**Marks Obtained**	**Teacher's Signature**
Topic Selection					
Data collection, Facilitation and Report Writing, Draft					
Presentation					
Final Report Submission					

Annex V

Guideline of Community Health Diagnosis (CHD)

Preliminary page

- Cover page
- Name of group members
- Approval Sheet
- Acknowledgements
- Preface
- Table of Contents
- List of tables
- List of figures
- Abbreviations
- Executive summary

Chapter I: Introduction

1.1 Background of VDC (in detail)
1.2 Rationale of the study
1.3 Objectives of the study

Chapter II: Methodology

2.1 Study design
2.2 Study area
2.3 Sample size
2.4 Sample technique
2.5 Site selection and HH selection
2.6 Sources of data
2.7 Tools and techniques of data collection and data analysis
2.1 Field implementation
2.8 Data analysis & presentation technique
2.9 Validity and reliability
2.10 Ethical consideration
2.11 Limitation of the study

Chapter III: Finding

3.1 Social and Demographic Characteristics
3.2 Environmental Health and Hygiene
3.3 Maternal and Child Health

3.4 Nutrition
3.5 Diseases pattern etc

Chapter IV: Need prioritization and MHP

4.1 Introduction
4.2 Problem identification
4.3 Problem analysis
4.4 Problem prioritization on resource base (Student innovative local resource mobilization)
4.5 Setting objectives
4.6 Methodology
4.7 Target group selection
4.8 Developing plan of action
4.9 Implementation
4.10 Evaluation with sustainability of MHP

Chapter V: Discussion

Chapter VI: Conclusion and Evidence based sustainable resource management recommendation

Chapter VII. Other activities

References

Appendices

Questionnaire
Social Map of VDC
Work Plan
Reference/Evidence letter
Photo Gallery

Annex VI

Guideline of Comprehensive Public Health Practice

Title of District Health Profile

- Cover page
- Name of group members
- Approval Sheet
- Acknowledgements
- Preface
- Table of Contents
- List of tables
- List of figures
- Abbreviations
- Executive summary

Chapter I. Introduction

1.1 General background
1.2 Rationale of the practice
1.3 Objective of the practice: General and specific

Chapter II. Methodology

2.2 Selection of the practice area
2.3 Practice duration
2.4 Information collection tools and techniques
2.5 Sources of information
2.6 Processing and Presenting of data
2.7 Validity and reliability
2.8 Ethical considerations
2.9 Limitations of the practice*(comparison of work plan between proposed and actual)*

Chapter III. District profile

3.1 Introduction of the district
3.2 Geographical situation
3.3 Political and administration division
3.4 Demography
3.5 Religious places
3.6 Ethnic groups
3.7 Population distribution by language
3.8 Population by religion

3.9 Development infrastructure like transportation, communication, electricity, drinking water supply and education
3.10 Government health facilities
3.11 NGOs and INGO related with health and brief their activities
3.12 Health indicators
3.13 Economic status
3.14 Non/governmental organization

Chapter IV. District Health Profile

POSDCORB model and pattern of District health office, Innovation of district office

ChapterV. Analysis of district health programs

Immunization, Diarrhoea, ARI program, MCH, Nutrition, SMP, FP, TB, Leprosy, PHC/Outreach, FCHV program, curative services and top ten disease, HIV/AIDS, National Health Training, National Health Information

Non communicable diseases, RTA, social disease and disaster situation and preparedness

ChapterVI. Critiques of district level health service in relation with National Health Serviceand system

Chapter VII.Mini Action Project

4.11 Introduction
4.12 Problem identification
4.13 Problem analysis
4.14 Problem prioritization on resource base (Student innovative local resource mobilization)
4.15 Setting objectives
4.16 Methodology
4.17 Target group selection
4.18 Developing plan of action
4.19 Implementation
4.20 Evaluation with sustainability of MHP

Chapter VIII. Other Activities

8.1 Field visits (PHCC, HP, SHP and their service and profile of service in relation to above)
8.2 At least 3-4 health facility visit
8.3 Program being conducted by health facilities
8.4 Activities by conducted by the group/situation
8.5 Hospital visits (organogram, services, manpower)

Chapter IX. Conclusion and Evidence based sustainable resource management recommendation

Reference

Appendix

- **Necessary document**
  - Questionnaire
  - Map of practice site
  - Work Plan (proposed and actual)
  - Other necessary

- **Evidence of field**
  - Letter from District
  - Proved by DHO daily attendance sheet of individual student
  - Evidence of conducting micro health project and approve from the local authorities like, PHCC/HP/SHP/VDC and photo
  - Proved letter of concern field visit office head (PHCC/HP/SHP)
  - Photo Gallery

Annex VII

Guideline of Public health research report

Title of Research

Cover page
Approval Certificate
Declaration
Acknowledgement
Abstract
Table of content
List of table
List of figures
Acronyms

CHAPTER I: Introduction

1.1 Background
1.2 Statement of problem
1.3 Rationale of study
1.4 Objective
  1.4.1 General objective
  1.4.2 Specific objective
1.5 Research question
1.6 Hypothesis (If necessary)
1.7 Conceptual framework

CHAPTER II: Literature Review

2.1 Thematic review
2.2 Empirical review (Most recent to old)

CHAPTER III: Methodology

3.1 Study design
3.2 Study variables
3.3 Study area
3.4 Study population
3.5 Sample size
3.6 Sampling technique
3.7 Tools and technique of data collection

3.8 Data management, analysis and interpretation procedure
3.9 Validity and reliability of study
3.10 Inclusion and exclusion criteria
3.11 Expected outcome (only in proposal)
3.12 Ethical consideration
3.13 Limitation of the study
3.14 Operational definition
3.15 Time frame of study

CHAPTER IV: Research Findings

CHAPTER IV: Discussion

CHAPTER VI: Conclusion and Recommendation
6.1 Conclusion
6.2 Recommendation (finding base)

References/Bibliography

Annex 1 Tools of data collection
Annex 2 Mapping of study area
Annex 3 Approval letter
Annex 4 Consent letter
Annex 4 Other necessary documents

A RESEARCH REPORT

ON

.....TITLE.....

.....

.....

<u>SUBMITTED BY</u>

NAME OF STUDENTS

YEAR, BATCH ……

PU REGD. NO…….

SUBMITTED IN PARTIAL FUILLFILLMENT OF THE REQUIREMENTS IN THE SUBJECT OF THE PUBLIC HEALTH RESEARCH REPORT (COURSE CODE PSD 408.4-PHRR) FOR DEGREE OF BACHELOR OF PUBLIC HEALTH

<u>SUBMITTED TO</u>

DEPARTMENT OF PUBLIC HEALTH

.....COLLEGE NAME.....

PURBANCHAL UNIVERSITY

KATHMANDU, NEPAL

YEAR

Department of Public Health
……..Respective College ……..….
Purbanchal University

College logo

CERTIFICATE

It is certified that this research entitled "……**TITLE**……..…… ……" is the bona fide work of Mr/Ms. ……**Student Name**……., conducted under our guidance and supervision as partial fulfilment of the requirement for the degree of Bachelor of Public Health from **…….. College name** …… of Purbanchal University.

RESEARCH SUPERVOISER

Name with title……..
Guide
Public Health Department
College name

EXTERNAL

Name with title……..
External
…….

Name with title……..
HOD
Public Health Department
College name and address

Name of campus chief……..
Campus Chief/Principal
College name and address

DECLARATION

I hereby declare that this Research entitled **"……RESEARCH TITLE……..."** has been prepared by me under the close guidance and supervision of ……(**Guide name with title)**…….. as a guide in the partial fulfilment of the requirement for the degree of Bachelor of Public Health from, from …….. ……..…..(**respective college)**…… of Purbanchal University, Nepal.

_____

……Student name……
PU REGISTRATION NO.....
BACHELOR OF PUBLIC HEALTH,
20….. BATCH
DEPARTMENT OF PUBLIC HEALTH
.....COLLEGE NAME.....

RECOMMENDATION

This is to recommended that the Research entitled "**……RESEARCH TITLE……..**" has been carried out by ……..for the partial fulfilment of **Bachelor of Public Health.** This original work was conducted under my supervision. I would like to recommend keeping this research report for final evaluation.

……..

……Name with title and qualification……..

Guide

Department of Public Health

.....college name.....

Purbanchal University

Biratnagar, Nepal

Year

Annex VIII

Understanding of guideline

Preliminary/Introductory Part

Cover page

The cover page must be contained in CAPS

- The title of the study: It should be written into upper case/Capital Letter.
- Statement-*"A Term Paper/Report Submitted to Fulfil the Partial Requirements of course* code… Subject…., *Bachelor of Public Health"*
- Submitted By: Study Group/ Researcher, Batch
  Department of Public Health, ……..college, Purbanchal University.
- Year of Running semester
  (All the above information should be written into title case)

Approval sheet/letter (optional)

It should be attached as provided format of the college/ university.

Acknowledgement

In this part you should acknowledge your respondents, academic advisors and other persons who have assisted and cooperated in the work/study.

Table of contents

Under this part, should be included all the important components of the final report in sequence order by indicating page numbers.

List of tables

Under this heading include all the heading of the table orderly with their respective page numbers.

List of figure

Under this heading include all the heading of the figures orderly with their respective page numbers.

List of abbreviations/acronyms

Write abbreviation/acronym words and their full form which are used in the final report.

Abstract:

An abstract must be written with introduction, objectives, methodology, results and discussion.

Main body/Contents

This part consists of more details as well as specific information of the study which are explained briefly as follows:

1. **Introduction:**

The introduction of the study means a brief description of topic; what is known before the study. So, there should be mentioned details information of the study in the sequential order. In the introduction/background, there should be entitled the past and existing situation as well as future trends of the research issues with authentic references. So, the Introduction/background of the study may be based on the theories, principles, official report and records, finding of the other researches, etc. This part should not contain tables, points and heading as far as possible and should be more in paragraph form.

You must justify, why you do select this topic/problem for preparing the term paper. And after the completion of the paper who will be benefited from the findings of the paper. So, try to justify and give the importance of your paper in logical order.

2. **Objectives of the study: (**General and Specific Objectives)

Objectives should be fulfilling the need of the fact to be covered keeping the title of the research in mind. Specific objectives must be specific, measurable, achievable, realistic and time bonded.

3. **Methodology**

Under the methodology, there must be included the methods and procedures of the paper preparation. For example Internet search, library study, desk view, and meta-analysis whatever you have done during the paper preparation.

4. **Results and Discussion**

Results should be drawn in text, tabular and figure form. The table should be made and arranged according to following guidelines:

- Different set of tables can be made starting with set describing different features of the study. Care should be taken to include or exclude the relevant or irrelevant features.
- After this according to each objective one set of the tables should be made.
- If the effect of any variable on the other has to be analyzed to fulfil the need of the objective, then cross tables should be made between those variables.
- In description of the tables only salient finding should be described in figures and percentage.
- If any case study is there, it should be included after the results and the before the discussion.

Discussion:

- All the findings should be justified giving the valid reasons of your findings.
- The findings should be compared with the previous studies wherever needed. If they have similar finding describe that, if dissimilar then give valid justification of dissimilarity.
- At the end of this chapter write strengthens as well as limitations of your study.

Conclusion and Recommendations:

- Conclusion should be drawn for every objective based on the findings of the study.
- Recommendations should be given- on the basis of the conclusion. These should be concrete and practical not hypothetical.
- It should be as possible as concise form.

References: Harvard style or as prescribed by college/university

Appendix:

Under this heading researcher can include additional information which are related and supportive for the study such research tools, sample size calculation sheet, map of the study areas, related photographs etc

Annex IX

Sample of log book maintain monitoring sheet

SN	Course code	Course	Title	Date	Signature of teacher	Signature of HOD
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With this log sheet practical file should maintain by all process from description to finalization of all task

Annex X

Core Committee of curriculum development

Dean Office
Faculty of Medical and Allied Sciences
Purbanchal University

Public Health Subject Committee
Faculty of Medical and Allied Sciences
Purbanchal University

Asso. Prof. Salau Din Myia
Coordinator-Curriculum development core committee
MPH, MA Sociology
Head of Department
Department of Public Health

- Life Member and National Secretary, Nepal Public Health Association
- Ex-member, Nepal Health Professional Council
- Member, Public Health Subject Committee, Purbanchal University

Asst. Prof. Binod Regmi
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MPH, LLB Health and forensic law, MA Anthropology
Campus Chief
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- Life Member and National Treasurer, Nepal Public Health Association

Asst. Prof. Janak Kumar Thapa
Member-Curriculum development core committee
BPH, MPH
Head of Department
Department of Public Health

- Life Member, Nepal Public Health Association
- Member, Public Health Subject Committee, Purbanchal University

Annex XI

Participants in final workshop of BPH curriculum

Prof. Dr. Ram Kumar Singh, Dean, FMAS, PU
Prof. Dr. Muni Raj Chettri, Chairman, Subject Committee
Prof. Hari Bhakta Pardhan
Prof. Dr. Ritu Prasad Gartualla, TU
Prof. Nabin Shrestha, Valley College
Asso. Prof. Jagat man Shrestha, WHO
Mr. Krishna Prasad Bhusal, Chairman, ASIA
Mr. Ram Bhandari, Chairman, NEPHA
Dr. Pradep Pakurayal, Consultant, NHPC
Mr. Giriraj Koirala, Senior Officer, PU
Mrs. Shanta Thapa, Principal, HOPE
Mrs. Sanu Tuladhar, Principal, Model College
Mrs. Kiran Dawadi, Principal, OM institute of health sciences
Dr. Shyam Shrestha, Principal, KCHS
Mrs. Gyanu Basnet, Principal, B&B
Mrs Gita Pandey, Principal, NIHS
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Mr. Raj Kumar Subedi, LBCHS
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Mr. Praksh Dhungana, NAMS
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