

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:

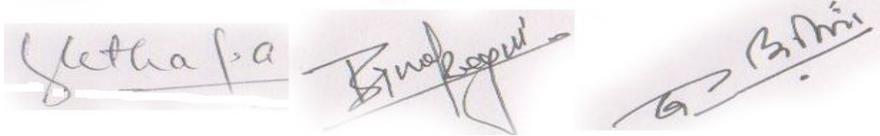
- Understand the concept of ecosystem approaches and the environmental determination of human health.
- Describe and develop the ecosystem approach for assessing causal linkages between human health and the natural and anthropogenic environments.
- Apply ecosystem management approaches to improve human 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

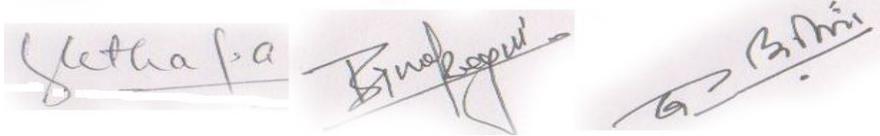
9 Hours

- 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

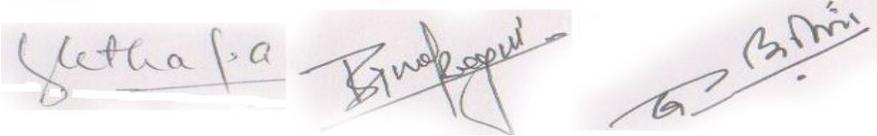
- Didactic lecture: mainly on the basic concepts, principles and theories
- Presentations and seminars: mainly on the events and issues of debate and diverse opinions
- Self learning: mainly on the issues, where further explanations are desired and materials are easily available for reading.

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.
2. Subedi RK and Thapa J., Text book of environment and health 2012.
3. Carson, Walter (1990), The Global Ecology Handbook, Boston, USA.
4. Ehlers and Steel, Municipal and rural sanitation.
5. FAO/WHO (1997), Health and Environment in Sustainable Development WHO/EHG/97.8.
6. FAO/WHO (1997), Pesticide Residue in Food, WHO
7. Miller, Tyler (1988), Environmental Science. USA: Wadsworth Inc.

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8. MOPE/ICIMOD/UNEP (2001), Nepal: State of the Environment Report 2001. Kathmandu: UNEP /ICIMOD
 9. Ojha. S (BS 2046) Watawarniyaswashthya 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 including 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 Karyakram* in Nepal

Unit 4: Child Health

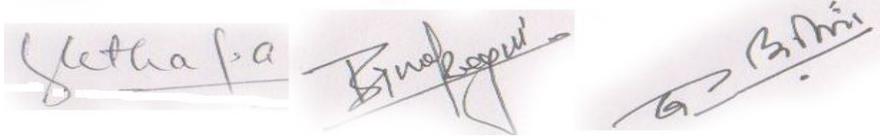
18 Hours

- 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-

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- 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 on public 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

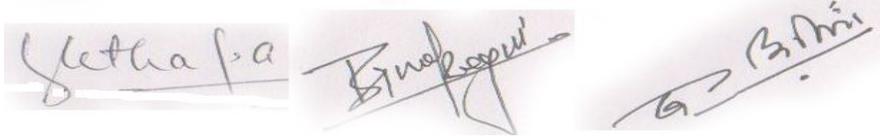
4 Hours

- 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: Family Planning

12 Hours

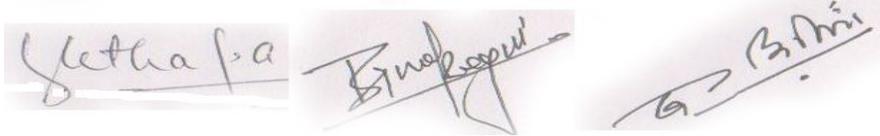
- Definition and concept of FP.
- Describe types, their mode of action, benefit, side effects, indication and contraindication of contraceptive devices and recent trends in contraception
- Discuss factors associated with use and non use of contraceptives
- Importance of counselling, counselling of eligible 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
8. Comprehensive family planning (COFP) course NHEICC/Nepal.
9. Cox. RC. "Demography", Cambridge University Press. 1986.
10. Sryock. HS; Siegel Js; and Associate. "The methods and materials of demography" US Bureau of the census. Washington. DC. 1989.
11. Srivastava. OS. Demography and Population Studies Vikas Publishing House Pvt. Ltd, 2nd Edition 1994.
12. K. Park, A textbook of preventive and social medicine (Latest edition).
13. 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 Freire)
 - 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. Buchman 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%

References

1. Anderson, C.L., School Health or Practice.
2. American Academy of Padiatric, 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.
4. Dale, E. "Audio Visual Method in Teachign" The Dryden Press Inc. Honsdale, Illinois, USA. 1969.
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.
8. Hanson JJ. Design for health
9. Pradhan, HB "A Text Book of health Education" Educational Resources for health.
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.
- Roles and contributions of
 - Multi-lateral agencies (WHO, UNICEF, UNFPA, UNDP, World 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.

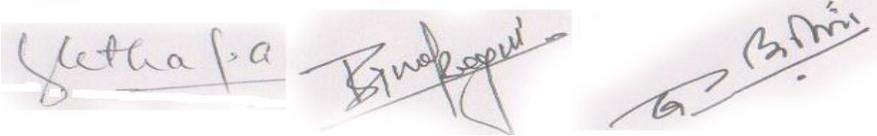
Evaluation

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.

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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. Suttentfield, 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

- 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.

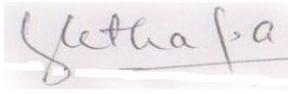
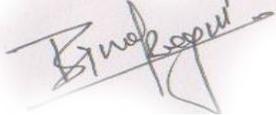
Evaluation

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
<p>Course description</p> <p>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.</p>			
Details of PSD			
Subject	Practical Hour	Content	Log or practical book
Environment health and Ecosystem	32	<ul style="list-style-type: none"> - 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 with specific detail, description, process and drawing manually
- All practical should be signed by respective teacher and head of the department/Coordinator
- All student must bring practical log book/ report in final examination
- Final examination will 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 - Benjamin 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	<ul style="list-style-type: none"> - 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 with specific detail, description, process and drawing manually
- All practical should be signed by respective teacher and head of the department/Coordinator
- All student must bring practical log book/ report in final examination
- Final examination will 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	<ul style="list-style-type: none"> - 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 programme 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 with specific detail, description, process and drawing manually
- All practical should be signed by respective teacher and head of the department/Coordinator
- All student must bring practical log book/ report in final examination
- Final examination will 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			
<p>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.</p>			
Details of TPP			
Subject	Practical Hour	Content	Log or practical book
Community health development and organization	32	<ul style="list-style-type: none"> - 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 with specific detail, description, process and drawing manually
- All practical should be signed by respective teacher and head of the department/Coordinator
- All student must bring practical log book/ report in final examination
- Final examination will 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, Sanskritization, Ethnomedicine, Ethnopsychiatry, Value, Beliefs, Perception, Knowledge, Attitude, Behaviour, 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 favouring 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 health
- 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 behaviour 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
- o 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. Knopf, 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; RECID/Nepal, Kathmandu
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 Publishing Company Ltd, New Delhi
14. Mechanic, D. (1968): Medical Sociology: A selective view, New York, The Free press
15. JK Park: Preventive and Social Medicine, Banaridas, India, Recent edition
16. Warner D (1995): Life and Death of PHC, Mexico
17. 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 will 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

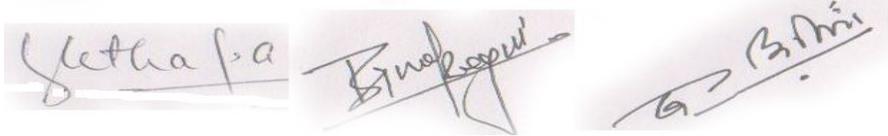
5 Hours

- 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

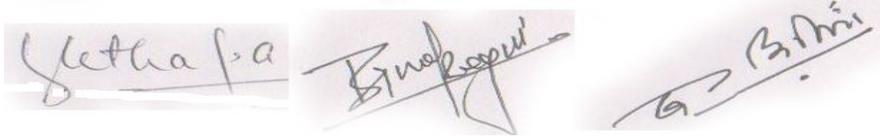
4 Hours

- 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.
6. Pandit RN and Paudel DP. Occupational health and safety, 2010
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.
9. Haddon, W. (Jr.) (1963). A Note Concerning Accident Theory and Research with Special Reference to Motor Vehicle Accidents. *Annals of the NY Academy of Sciences*, 107, 635–46.
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

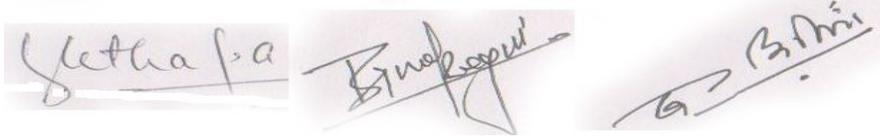
Upon the successful completion of the course, students will be able to:

- 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, salmonellosis, staphylococcal and various E. coli strains of importance.
- **Fungal infections**
 - Dermatophytosis, candidiasis, aspergillosis.
- **Helminthic infestations**
 - Filaria, infestation by hookworms, roundworm, strongyloides, toxocara and visceral larva migrans, taenia saginata and solium, hymenolepis nana and dimunita, diphyllbothrium latum, echninococcus granulosus and hydatid cyst infestations, trematodes and their infestations.



- **Protozoal infections**

- Malaria, leishmaniasis, trichomoniasis, toxoplasmosis, pneumocystis carinii 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.

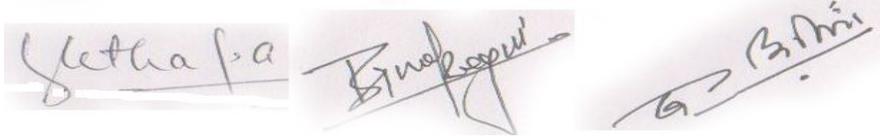
- **Non-communicable diseases**

- 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 (Kwashiorkor, 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 an epidemiological study using different study designs in a real life situation in order to understand the current prevalence, disease trends, and management for the prevention of that disease. In this unit following specific areas of applied epidemiology will be addressed.

Evaluation

Internal assessment in different forms 20%

Final examination 80%

References

1. MoHP/DoHS [Nepal]. Annual Report.
2. DOHS, Epidemiology and Disease Control Division. Control of Communicable Disease Manual 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 American Public Health Association, 2000.
5. DOHS, Epidemiology and Disease Control Division. National Recommended Case Definitions and Surveillance Standards 2003.
6. Vazquez M, LaRussa PE, Gershon A, et al. The effectiveness of the varicella vaccine in clinical practice. N Engl J Med 2001; 344: 955-960.
7. Beaglehole R, Bonita R, Kjellstrom T. Basic Epidemiology. World Health Organization, Geneva, 1993.
8. Gordis L Epidemiology. 2nd Edition, WB Saunders Company, Harcourt Health Sciences Company, 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-Raven publishers: 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 means and 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, Wilcoxon 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 Learning India Private Ltd, New Delhi, 2008
4. Rosner Bernard, Fundamentals of Biostatistics, Duxbuey Thomson Learning, seventh edition, 2010
5. Wayne W. Daniel. Biostatistics A foundation for analysis in the health sciences, Wiley India(P) Ltd, New Delhi, 2007
6. Panta Prem Prasad. Biostatistics, Vidyarthi 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

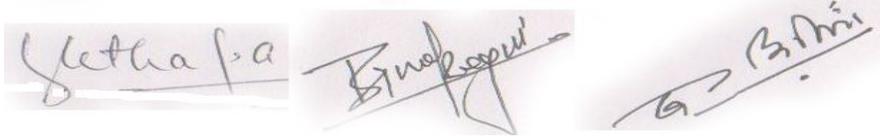
7 Hours

- 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

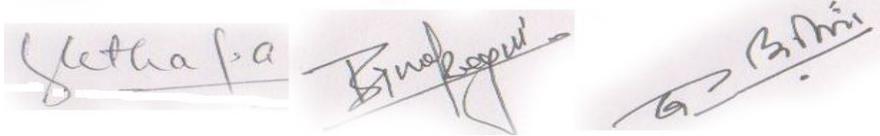
10 Hours

- 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

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- 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 Kanta Adhikari and Miriam Kranz
5. Food and Nutrition for developing countries
6. Human nutrition - Benjamin 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 will 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

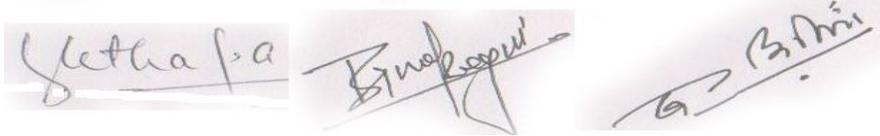
- Concept of health promoting school including its components
- Process to develop health promoting school in a community
- Planning, management of health promoting school
- School health policy and rules on health
- Linkages and coordination with existing health and education sectors to develop health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

Yetha pa *Bina Karki* *G. B. M.*

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.

Yetha pa *Bina Karki* *G. B. M.*

Course Title	Term Paper Preparation (Medical Sociology and Anthropology)		
Second Year	Fourth Semester	Course code: TPP 204.1-MSA	
Credit Hour: 1	Full Mark: 50	Pass Mark: 30	
<p>Course description</p> <p>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.</p>			
Details of TPP			
Subject	Practical Hour	Content	Log or practical book
Medical Sociology and Anthropology	32	<ul style="list-style-type: none"> - 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			

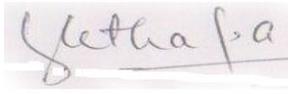
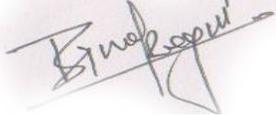
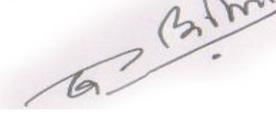
Maintain process of log or practical book

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

Course Title	Practical Skill Development (Applied Environmental and Occupational Health)		
Second Year	Fourth Semester	Course code PSD 204.2-AEOH	
Credit Hour: 1	Full Mark: 50	Pass Mark: 30	
<p>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.</p>			
Details of PSD			
Subject	Practical Hour	Content	Log or practical book
Applied Environmental and Occupational Health	32	<ul style="list-style-type: none"> - 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

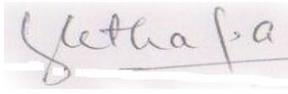
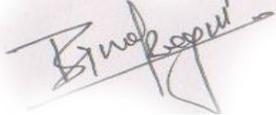
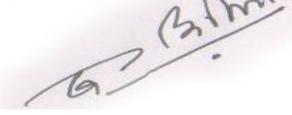
- Write practical with specific detail, description, process and drawing manually
- All practical should be signed by respective teacher and head of the department/Coordinator
- All student must bring practical log book/ report in final examination
- Final examination will be based on practical

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	
<p>Course description</p> <p>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.</p>			
Details of TPP			
Subject	Practical Hour	Content	Log or practical book
Applied epidemiology	32	<ul style="list-style-type: none"> - 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 with specific detail, description, process and drawing manually
- All practical should be signed by respective teacher and head of the department/Coordinator
- All student must bring practical log book/ report in final examination
- Final examination will be based on practical

Course Title	Term Paper Preparation (Applied Public Health Nutrition)		
Second Year	Fourth Semester	Course code: TPP 204.4-APHN	
Credit Hour: 1	Full Mark: 50	Pass Mark: 30	
<p>Course description</p> <p>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.</p>			
Details of TPP			
Subject	Practical Hour	Content	Log or practical book
Applied Public Health Nutrition	32	<ul style="list-style-type: none"> - 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 with specific detail, description, process and drawing manually
- All practical should be signed by respective teacher and head of the department/Coordinator
- All student must bring practical log book/ report in final examination
- Final examination will be based on practical

Course Title	Practical Skill Development (School Health and Oral Health)		
Second Year	Fourth 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	<ul style="list-style-type: none"> - 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 with specific detail, description, process and drawing manually
- All practical should be signed by respective teacher and head of the department/Coordinator
- All student must bring practical log book/ report in final examination
- Final examination will be based on practical