Curriculum

Proficiency Certificate Level
in
General Medicine

(Second and Third years)

Council for Technical and Vocational Training
Curriculum Development Division
Sanothimi, Bhaktapur
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Contents

1. Introduction:

General Medicine is one of the prominent and popular disciplines within the health profession in Nepal. The Health Science (general medicine) profession has been helping the world for the all-round development of health and it has also been creating salary base employment and self-employment opportunities in public and private sectors. This curriculum is designed with the purpose of producing middle level technical medical workforce equipped with knowledge and skills related to the field of general medicine so as to meet the demand of such workforce in the country to contribute in the national economic development of Nepal. The knowledge and skills incorporated in this curriculum will be helpful to deliver the individual needs as well as national needs in the field of health profession especially in general medicine sector.

Nepal Government has adopted a national policy for the attainment of "Health for All beyond the Year 2000 A.D" through the use of the primary health care approach. As a result CTEVT got the mandate to produce middle level trained workforce through CTEVT as well as CTEVT affiliated institutions.

2. Curriculum Title:

Proficiency Certificate Level in Health Science (General Medicine)

3. Program Objectives:

The course aims to produce middle level medical personnel with sound academic knowledge equipped with perfect technical skills that can be faced in real life situation at the level they are aimed at:

- Plan indoor and community health program.
- Administer medication and treatment.
- Assess patient, make provisional diagnosis and manage from available resources.
- Identify referral cases and refer.
- Counsel patient for follow up, care and related health problem.
- Perform routine and special medical investigations independently.
- Perform minor medical and surgical procedure for patient management.
- Identify and manage common emergency cases.
- Provide maternal, child health, nutrition and family planning services through primary health care center (PHCC) and health post (HP).
- Implement Priority national health programs through PHCC and HP.
- Handle administrative task.
- Maintain medical records.
- Practice quality control system in hospitals/ health posts
- Supervise subordinates and prepare reports.
- Create self-employment opportunities.

4. Program Description:

This course is based on the academic requirements to enter bachelor in health sciences as well as to provide general health services as a middle level human health worker. After completion of the course the graduate is expected to perform the duty of health post assistant as per assigned by Nepal Health Professional council independently in different health institutions in Nepal and abroad. The program is of three academic years' duration. The first year course focuses on basic science and foundational subjects, the second year course focuses on basic medical subject theory/practical simultaneously and the third year is given to the application of learned skills and knowledge within the comprehensive practical settings, in hospitals or health posts.

The foundational subjects like English, Nepali, Physics, Chemistry, and Mathematics (offered in diffusion model of curricular programme) are applicable in the medical field. The disciplinary subjects of medical field are included in all three years. This curricular programme also makes the provision of project works as well as real world of work practices in the specific medical areas. The curriculum structure and the subjectwise content reflect the details of this curriculum. In brief, this curriculum will guide to its implementers to produce competent and highly employable middle level technical workforces in the field of medicine.

5. Duration:

The total duration of this curricular program is three years. The program is based on yearly system. Moreover, one academic year consists of 40 academic weeks and one academic week consists up to 40 hours excluding evaluation period.

6. Group Size:

The group size will be maximum of 40 (Forty) in a batch.

7. Target Location:

The target location will be all over Nepal.

8. Entry Criteria:

- SLC Pass or SLC with GPA 2.00 plus minimum C grade in Compulsory Mathematics, English & Science.
- TSLC in CMA with minimum 66.68%.
- Should pass entrance examination as administered by CTEVT.

9. Selection:

Applicants fulfilling the entry criteria will be selected for admission on the basis of merit.

10. Medium of Instruction:

The medium of instruction will be in English and/or Nepali.

11. Pattern of Attendance:

Minimum of 90% attendance in each subject is required to appear in the respective final examination.

12. Teacher and Student Ratio

- Overall ratio of teacher and student must be 1:10 (at the institution level)
- For theory: As per the nature of the course
- For practical/demonstration: 1:10

13. Program Coordinator, Teachers and Demonstrators:

- The program coordinator should be a master's degree holder in the related area or as per minimum requirements of NHPC & CTEVT.
- The disciplinary subject related teacher should be a bachelor's degree holder in the related area or as per minimum requirements of NHPC & CTEVT.
- The demonstrators should be bachelor's degree holder in the related area with two years experiences in training activities or as per minimum requirements of NHPC & CTEVT.
- The foundational subject related teacher should be master degree holder in the related area.

14. Instructional Media and Materials:

The following instructional media and materials are suggested for the effective instruction and demonstration.

- ***Printed Media Materials*** **(**assignment sheets, case studies, handouts, information sheets, individual training packets, procedure sheets, performance checklists, textbooks etc.).
- ***Non-projected Media Materials*** (display, models, flip chart, poster, writing board etc.).
- ***Projected Media Materials*** (opaque projections, overhead transparencies, slides etc.).
- ***Audio-Visual Materials*** (audiotapes, films, slide-tape programmes, videodiscs, videotapes etc.).
- ***Computer-Based Instructional Materials*** (computer-based training, interactive video etc.).

15. Teaching Learning Methodologies:

The methods of teachings for this curricular programme will be a combination of several approaches (not limited to as mentioned here) such as illustrated lecture, tutorial, group discussion, demonstration, simulation, guided practice, practical experiences, fieldwork, report writing, term paper presentation, community campaign, case analysis, role-playing, heuristic, project work and other independent learning.

Theory: Lecture, discussion, seminar, interaction, assignment, group work.
Practical: Demonstration, observation, guided practice, self-practice, project work, clinical practice etc.

16. Mode of Education:

There will be inductive and deductive mode of education.

17.Examination and Marking Scheme:

- The subject teacher will internally assess the students' achievement in each subject during the course followed by a final examination at the end of each year.
- A weightage of 20% for the internal assessment and 80% for the annual examination will be allocated for theoretical components of a subject.
- The final examinations of all theory part will be administered through written tests.
- For theory exam, short and long questions will be asked covering all units of subjects as far as possible.
- The method of continuous assessment will be adopted for practical components. Final practicum evaluation will be based on:
    a. Institutional practicum attendance - 10%
    b. Logbook/Practicum book maintenance - 10%
    c. Spot performance (assigned task/practicum performance/identification/arrangement preparation/measurement) - 40%
    d. Viva voce : Internal examiner - 20%
    External examiner - 20%
- Student who fails in the internal assessment of any subject will not be allowed to sit in the final examination of that subject.

18. Provision of Back Paper:

There will be the provision of back paper but a student must pass all the subjects of all year within six years from the enrollment date, however there should be provision of chance exam for final year students as per CTEVT rules.

19. Disciplinary and Ethical Requirements:

- Intoxication, insubordination or rudeness to peers will result in immediate suspension followed by the review of the disciplinary review committee of the institute.
- Dishonesty in academic or practical activities will result in immediate suspension followed by administrative review, with possible expulsion.
- Illicit drug use, bearing arms in institute, threats or assaults to peers, faculty or staff will result in immediate suspension, followed by administrative review with possible expulsion.

20. Pass Marks:

The students must secure minimum of 40% marks in theory and 50% marks in practical (clinic). Moreover, the students must secure minimum pass marks in the internal assessment and final examination of each subject of theory and practical separately to pass all subjects offered.

21.

22.Grading System:

The overall achievement of each student will be measured by a final aggregate percentage of all final semester examinations and graded as follow: -

Marks division:

- Distinction : > or =80 %
- First division : 65 % to < 80 %
- Second division : 50 % to < 65 %
- Pass : 40 % to < 50 %

23. Certification and Degree Awards:

- Students who have passed all the components of all subjects of all 3 years are considered to have successfully completed the course.
- Students who have successfully completed the course will be awarded with a degree of **"Proficiency Certificate Level in General Medicine"**.

24. Career Opportunity:

The graduates will be eligible for the position equivalent to Non-gazette 1st class (technical) as Health Assistant or as prescribed by the Public Service Commission of Nepal and other related agencies. The graduate will be eligible for registration with the related Council in the grade as provisioned in the related Council Act (if any).

Course Structure

First year

SN	Subject	Activity	Mode			Distribution of Marks						Total Marks	Remarks
						Theory			Practical				
			T	P	Total	Internal	Final	Exam Hour	Internal	Final	Minimum Exam Hour		
1	English	T	3	0	3	20	80	3	-	-	-	100	
2	Nepali	T	3	0	3	20	80	3	-	-	-	100	
3	Social Studies	T	2	0	2	10	40	1.5	-	-	-	50	
4	Anatomy & Physiology	T+P	4	1	5	20	60	3	10	10	3	100	
5	Physics	T+P	4	2	6	20	60	3	10	10	3	100	
6	Chemistry	T+P	4	2	6	20	60	3	10	10	3	100	
7	Zoology	T+P	3	2	5	20	60	3	10	10	3	100	
8	Botany	T+P	3	2	5	20	60	3	10	10	3	100	
9	Mathematics & Statistics	T	4	1	5	20	60	3	10	10	3	100	
	Total		27	10	40	170	560		60	60		850	

Second Year

SN	Subject	Activity	Mode			Distribution of Marks						Total Marks	Remarks
						Theory			Practical				
			T	P	Total	Internal	Final	Exam Hour	Internal	Final	Minimum Exam Hour		
1	Medicine -I (Clinical Method, communicable disease and system disease)	T+P	3	2	5	20	80	3	20	30	4	150	
2	Surgery-I (General Surgery and orthopedics and Physiotherapy)	T+P	3	2	5	20	80	3	20	30	4	150	
3	Obstetrics and Gynecology	T+P	3	2	5	20	80	3	20	30	4	150	
4	Basic Medical Procedures and First Aid	T+P	3	2	5	20	80	3	20	30	4	150	
5	Clinical Pathology (Microbiology, Parasitology, Biochemistry, Hematology)	T+P	3	1	4	20	60	3	10	10	4	100	
6	Pharmacology and Pharmacy	T+P	3	1	4	20	60	3	10	10	4	100	
7	Environmental Health	T+P	3	1	4	20	60	3	10	10	4	100	
8	Health Education	T+P	3	1	4	20	60	3	10	10	4	100	
9	Primary Health Care/Family Health (Nutritional, maternal, child health, family planning and demography)	T+P	3	1	4	20	60	3	10	10	4	100	
	Total		**27**	**13**	**40**	**180**	**620**		**130**	**170**		1100	

Note: Theory, institutional practicum & simulation will be deliver within 32 weeks (32*40=1280 hours) and clinical practicum will be provided for 8 weeks (8*40=320 hours).

Third Year

SN	Subject	Activity	Mode			Distribution of Marks							Remarks
						Theory			Practical			Total Marks	
			L	P	Total	Internal	Final	Exam Hour	Internal	Final	Minimum Exam Hour		
			Class hour for 20 Weeks										
1	Medicine -II (Pediatrics including Neonatology, Psychiatry, Dermatology)	T+P	8	4	12	20	80	3	20	30	4	150	
2	Surgery-II (ENT, Dentistry, Ophthalmology)	T+P	8	4	12	20	80	3	20	30	4	150	
3	Health Management	T+P	5	2	7	20	60	3	10	10	4	100	
4	Epidemiology and Community diagnosis	T+P	5	2	7	20	60	3	10	10	4	100	
			Total Duration: 16 Weeks						**Health Facility Supervisor**	**Internal**	**Final Evaluation**		
5	Comprehensive Clinical Practicum	Practical		40	40				100	100	100	300	
			Total Duration: 8 Weeks										
6	Comprehensive community field practicum	Practical		40	40				50	100	50	200	
												1000	

Second Year

Course: Medicine I

Hours Theory: 96
Hours Practical: 64
Assessment Marks: 150 (Theory 100 + Practical 50)

Course Description:
This course begins with an in-depth presentation on the diagnostic process applied to the history and physical examination of the patient, and includes assessments specific to each system. Medicine I presents a basic review of selected conditions and disorders from areas of internal medicine, including: hematological, cardiovascular, respiratory, gastrointestinal, endocrine, hepatic, nervous, and genitourinary systems. Additionally, communicable diseases common to Nepal are individually discussed. For each disease or condition this course examines etiologies, clinical features, differential diagnosis, management at the health post level, indications for referral, and preventive education.

Course Objectives:
On completion of the course the learner will be able to:

1. Perform a thorough history and physical examination, and analyze and interpret the findings to make a rational provisional diagnosis.
2. Identify the etiologies, pathology and clinical features of common systemic disorders and communicable diseases.
3. Describe the management and counseling for common systemic disorders and communicable diseases.
4. Identify indications that a case requires referral to a higher level or specialty facility.
5. Identify and implement opportunities for health education, prevention measures, or rehabilitation.

Recommended Texts:

1. Kafle, K. K., &Pinniger, R.G. Diagnostic and Treatment Manual for Primary Health Care in the District, distributed by Health Learning Materials Center, Tribhuvan University, Nepal.
2. Dhungel S., & Pathak, U., Textbook of Medicine. Educational Enterprises, Kathmandu. Current edition.
3. Dhungel S., & Pathak, U., Communicable Disease. Educational Enterprises, Kathmandu. Current edition.
4. Pathak, U., Differential Diagnosis. Educational Enterprises, Kathmandu. Current edition.
5. Dhungel S., & Pathak, U., Textbook of Medicine. Educational Enterprises, Kathmandu. Current edition.
6. Sayami, P., Medical Problems for Health Post Workers. HLMC Kathmandu.
7. Edwards, C.R.W. and Bouchier, I.A.D., Davidson's Principles and Practice of Medicine. Churchill Livingstone, London. Current edition.

Reference Texts:

1. L.M. Tierney, L.M. et al., Current Medical Diagnosis and Treatment**.** Appleton & Lange, Stamford, Conn. Current edition.
2. Michael Swash, Hutchison's Clinical Methods, W.B. Saunders, Edenburg, London, New York, Philadelphia, St Louis, Sydney, Toronto, Recent Edition

Course: Medicine I	**Hrs. theory 96 Hrs. lab/practical 64**
Unit 1: Clinical Methods	Hrs. theory Hrs. lab/practical
Sub-unit 1.1: History taking & Physical Examination	**Hrs. theory 3 Hrs. lab/practical 34**
Objectives:	Content:
(See Basic medical procedure (BMP) for basic history taking and physical examination) 1. Establish trust with the client/family by making introductions, showing respect, listening attentively, and remaining non-judgmental. 2. Perform history taking and clinical examination. 3. Explain why it is essential to ask about and examine all systems of the subject, rather than only the system. 4. Use a diagnostic decision diagram to develop a provisional diagnosis. 5. Explain the purpose of investigations in differentiating diagnosis. 6. Discuss the meaning and implication of "false positive" and "false negative" findings. 7. Perform a minimum of 10 history taking and physical examinations with provisional diagnosis and case management details.	1. Principles and procedures for collecting and interpreting clinical data. 2. Procedure of general physical examination and systemic examinations in regard to all systems. 3. Bedside history and clinical examination practice. Medical, Surgical, Obstetrics, Gynecology, Psychiatrics, Pediatrics Dental Eye Ear, Nose and Throat Dermatology 4. Explanation regarding instruments and apparatus (Stethoscope, Sphygmomanometer, Tuning-fork, Hammer) used while performing general physical examination.
Evaluation methods: written exam, viva, performance observation in clinical setting	**Teaching / Learning Activities / Resources:** classroom instruction, practice in a simulated setting, supervised clinical practice
Unit 2: Hematological & Cardiovascular Conditions	**Hrs. theory: 22 Hrs. lab/practical 12**
Sub-unit 2.1: Anaemia	**Hrs. theory 4 Hrs. lab/practical 1**
Objectives:	Content:
1. Define anaemia and tell the cardinal signs of anaemia. 2. Discuss the incidence of anaemia. 3. Discuss the causes, symptoms and clinical features of common forms of anaemia: o Iron deficiency anaemia. o Megaloblastic anaemia o Aplastic anaemia o Haemolyticanaemia o Thalassemia o Sickle cell anemia o Heamophilia A and B o Anemia of chronic disease 4. Identify investigations for diagnosing anaemia. 5. Identify complications of anaemia. 6. Describe the management and prevention of common types of anaemia.	1. Incidence of anaemia in Nepal and the socio-cultural factors which contribute to anaemia. 2. Classifications of anemia. 3. Definition, types, courses clinical features, investigation, complications, management and prevention of different types of anaemia: o Iron deficiency anaemia. o Megaloblastic anaemia. o Haemolyticanaemia. o Thalassemia o Sickle cell anemia o Heamophilia A and B o Anemia of chronic disease 4. Normal value of hemoglobin.
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice

Unit 2: Hematological & Cardiovascular Conditions	Hrs. theory Hrs. lab/practical
Sub-unit 2.2: Leukemia & Lymphoma	**Hrs. theory 3 Hrs. lab/practical 1**
Objectives:	Content:
1 Define leukemia and tell the cardinal signs. 2 Discuss the incidence of leukemia. 3 Discuss the causes, symptoms and clinical features of leukemia. 4 List the types of Leukemia 5 Discuss Lymphoma and it's types. 6 Identify investigations for diagnosing leukemia. 7 Identify complications of leukemia. 8 Describe the management and prevention of common types of leukemia.	1. Incidence of leukemia and the socio-cultural factors which contribute to leukemia & Lymphoma in Nepal. 2. Definition, types, courses clinical features, investigation, complications, management and prevention of different types of leukemia & Lymphoma:
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice
Unit 2: Hematological & Cardiovascular Conditions	Hrs. theory Hrs. lab/practical
Sub-unit 2.3: Haemostatic & atherosclerotic disorders	**Hrs. theory 3 Hrs. lab/practical 1**
Objectives:	Content:
1. Describe the incidence and pathology of common haemostatic disorders and atherosclerotic occlusive disorders. 2. Discuss Major Modifiable risk factors and Non Modifiable risk factors for Heart diseases. 3. Describe the clinical features and differential diagnosis of these, which can be done at the health post level. 4. Discuss the treatment and complications of haemostatic disorders and atherosclerotic occlusive disorders. 5. Identify indications for referral to a higher level facility.	1. Etiologies, incidence, complications, management, and referral of haemostatic disorders and atherosclerotic occlusive disorders.
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice
Unit 2: Hematological & Cardiovascular Conditions	Hrs. theory Hrs. lab/practical
Sub-unit 2.4: Cardiac disorders – angina, infarction, arrhythmia, valvular diseases	Hrs. theory 4 Hrs. lab/practical 2
Objectives:	Content:
1. Discuss the etiologies and incidence of each: a. Angina b. Myocardial infarction c. Cardiac arrhythmia d. Valvular disorders 2. Describe the pathology, cardinal signs and clinical features of each of the above. 3. Discuss differential diagnosis of above conditions. 4. Causes of Myocardial infarction(M.I.) without coronary atherosclerosis. 5. Identify indications for immediate referral to a higher level facility. 6. Describe measures to stabilize a patient experiencing M.I. before referral. 7. Describe the advice and emergency management of these conditions	1. Etiologies, diagnosis,emergency management, referral, stabilization in cases of: a. Angina b. Myocardial infarction c. Cardiac arrhythmia d. Valvular disorders 2. Perform physical examination of the cardiovascular system.
Evaluation methods: written exam, spotting, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice

Unit 2: Hematological & Cardiovascular Conditions	Hrs. theory Hrs. lab/practical
Sub-unit 2.5: Cardiovascular disorders – Hypertension	**Hrs. theory 4 Hrs. lab/practical 5**
Objectives:	Content:
1. Define hypertension, tell the cardinal signs, and explain the different classifications. 2. Discuss the incidence of hypertension and complications of untreated hypertension. 3. Identify the etiologies and clinical features of common forms of hypertension. 4. Identify investigations necessary for differential diagnosis. 5. Discuss common drugs used in the management of the chronic hypertension and their side effects in brief. 6. Tell how to manage hypertensive emergencies. 7. Describe how to manage the uncomplicated case of hypertension. 8. Explain the role of life style & yoga in prevention and control of hypertension. 9. Identify indications for referral. 10. Identify and manage hypertensive crisis.	1. Definition, incidence, etiologies, classifications, clinical features, investigations, complications, hypertensive emergency management, general management of hypertension and referral indications. 2. Measurement of the blood pressure in mid- upper arm and interpretation. 3. Show X-ray chest-cardiomegaly. 4. Role of life style & yoga in prevention and control of hypertension. 5. Hypertensive crisis.
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice
Unit 2: Hematological & Cardiovascular Conditions	Hrs. theory Hrs. lab/practical
Sub-unit 2.6: Cardiovascular disorders - Congestive cardiac failure	**Hrs. theory 4 Hrs. lab/practical 2**
Objectives:	Content:
1. Review the anatomy and physiology of the heart and related organs. 2. Describe the development and condition of congestive cardiac failure (CCF). 3. Identify the cardinal signs, etiologies, clinical features and pathology of CCF. 4. Identify/Physical findings & signs in Heart failure. 5. Identify the investigations necessary for differential diagnosis. 6. Describe the complications of CCF. 7. Describe the management of simple cases of CCF. 8. Explain non pharmacologic approach in the management of Congestive heart failure. 9. Identify indications for prompt stabilization and referral to a higher level facility.	1. Anatomy and physiology of heart and related organs. 2. Definition, etiology, pathology, clinical features, investigation, complication, differential diagnosis, and management of CCF. 3. Show the x-ray film of chest (Cardiomegaly). 4. Non pharmacologic approach in the management of congestive heart failure. 5. X- ray & ECG of patient.
Evaluation methods: written exam, spotting, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice

Unit 3: Respiratory Disorders	**Hrs. theory: 17 Hrs. lab/practical: 11**
Sub-unit 3.1: Acute bronchitis	**Hrs. theory 3 Hrs. lab/practical 2**
Objectives:	Content:
1. Define bronchitis, tell the cardinal signs and discuss the incidence. 2. Identify etiology, pathology and clinical features of acute bronchitis. 3. Identify investigations necessary for differential diagnosis. 4. Identify complications of acute bronchitis. 5. Explain how the incidence of chronic bronchitis can be reduced by preventive measures. 6. Describe the management of diagnosed cases of acute bronchitis and indications for referral to a higher level facility.	1. Definition, incidence, etiology, pathology, clinical features, differential diagnosis, complication and management of acute bronchitis. 2. Investigations for acute bronchitis: o Complete Blood Count (CBC) o TLC (Total leucocytes count) o DLC (Differential leucocytes count) o Sputum for culture and sensitivity 3. Preventative measures: o reduction of environmental air pollution o good nutrition containment of respiratory mucus wastes (not spitting phlegm into the environment)
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice
Unit 3: Respiratory Disorders	Hrs. theory Hrs. lab/practical
Sub-unit 3.2: Chronic Obstructive Pulmonary Disease (COPD)	Hrs. theory 3 Hrs. lab/practical 1
Objectives:	Content:
1. Define COPD and discuss the incidence of this condition. 2. Identify the aetiology, pathology, cardinal signs and clinical features of COPD. 3. Identify the investigations necessary for differential diagnosis. 4. Describe how to manage a case of COPD with available resources. 5. Identify complications of COPD. 6. Identify indications for referral . 7. List community actions or health education aimed at reducing the incidence of COPD.	1. Definition, aetiology, clinical features, differential diagnosis, investigations, management, complications and indications for referral of the case of COPD. 2. Component disorders: o chronic bronchitis o emphysema o asthma 3. Complications of COPD o corpulmonale 4. Describe how to prevent COPD.
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice
Unit 3: Respiratory Disorders	Hrs. theory Hrs. lab/practical
Sub-unit 3.3: Pleural effusion	**Hrs. theory 3 Hrs. lab/practical 2**
Objectives:	Content:
1. Define pleural effusion and tell the cardinal signs. 2. State the aetiology, pathology and clinical features of pleural effusion. 3. Differentiate between exudates and transudate. 4. Identify the investigations necessary for differential diagnosis. 5. Manage pleural effusion caused by Tuberculosis. 6. Identify complications of pleural effusion and the treatment for these. 7. Describe how to stabilize the patient and refer.	1. Definition, aetiology, pathology, clinical features, investigations, differential diagnosis, complications. 2. Management of pleural effusion, techniques of taping the chest. 3. Sample collection & transport to appropriate place. 4. Demonstration of positive X-ray film of pleural effusion.
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice

Unit 3: Respiratory Disorders	Hrs. theory Hrs. lab/practical
Sub-unit 3.4: Respiratory disorders – Pneumonia	**Hrs. theory 2 Hrs. lab/practical 2**
Objectives:	Content:
1. Define pneumonia and discuss the incidence. 2. Explain why pneumonia is a serious problem , and identify the populations most at risk. 3. Identify the etiologies, pathology, cardinal signs and clinical features of different types of pneumonia. 4. Identify complications of pneumonia. 5. List the investigations necessary for differential diagnosis of pneumonia. 6. Describe the management of pneumonia. 7. Identify indications for referral . 8. Prevention and control of pneumonia including vaccine.	1. Definition, etiology, sign and symptoms, investigation, complications, management and epidemiology of pneumonia. 2. Types of pneumonia: 3. Prevention of pneumonia: 4. Demonstration of chest x-ray of pneumonia.
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice
Unit 3: Respiratory Disorders	Hrs. theory Hrs. lab/practical
Sub-unit 3.5: Asthma	**Hrs. theory 3 Hrs. lab/practical 2**
Objectives:	Content:
1. Define bronchial asthma and tell the cardinal signs. 2. Identify the etiology, pathology and clinical features of bronchial asthma. 3. Discuss the relationship between extrinsic and intrinsic asthma. 4. Identify the investigations necessary for differential diagnosis. 5. List complications of asthma. 6. Manage bronchial asthma. 7. Identify indications for referral. 8. Identify methods of symptom control. 9. Role of vaccine to prevention of bronchial asthama.	1. Definition, aetiology, pathology, clinical features, differential diagnosis, diagnosis,complication, &management of bronchial asthma. 2. Show the X-ray of chest of bronicalasthama. 3. prevention and control of asthama.
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice

Unit 3: Respiratory Disorders	Hrs. theory Hrs. lab/practical
Sub-unit 3.6: Pulmonary tuberculosis	**Hrs. theory 3 Hrs. lab/practical 2**
Objectives:	Content:
1. Define pulmonary tuberculosis (PTB). 2. State the aetiology, pathology, cardinal signs and clinical features of PTB. 3. Identify the investigations necessary for differential diagnosis of PTB. 4. Describe complications of PTB. 5. Describe the procedures for managing smear positive cases according the DOTS concept with special reference to Multi Drug Resistance (MDR) and XDR (SCC). 6. Summarize the teaching points for pulmonary positive cases. 7. Identify methods of prevention and control.	1. Definition, aetiology, pathology, clinical features, differential diagnosis, classification of Tuberculosis, investigation, complications, management and prevention of PTB. 2. DOTS therapy in PTB according to National Guidelines with special reference to MDR and XDR. 3. Follow up care as per National Guidelines. 4. Definition of relatse, drug resistant and treatment failure case. 5. Prevention and control of PTB o reporting o patient/family education o vaccination o good nutrition for healthy immune system o containment of sputum (not spitting phlegm into the environment) 6. Show the sputum smear and X- ray chest of pulmonary tuberculosis.
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice, field visit to DOTS clinic
Unit 4: Gastrointestinal Disorders	**Hrs. theory: 8 Hrs. lab/practical**
Sub-unit 4.1: Peptic Ulcer Diseases	**Hrs. theory 3 Hrs. lab/practical**
Objectives:	Content:
1. Define peptic ulcer (PUD) diseases and discuss the incidence. 2. Distinguish between gastritis, gastric ulcer, duodenal ulcer and esophageal ulcer. 3. Identify the aetiologies, pathology, cardinal signs and clinical features of PUD. 4. Explain the relationship of Helicobacter pylori to peptic ulcers. 5. Identify investigations necessary for differential diagnosis. 6. Describe integrated comprehensive treatment for PUD. 7. Identify complications of untreated PUD. 8. Identify indications for referral.	1. Revision of anatomy and physiology of stomach and duodenum. 2. Describe physical examination of the gastrointestinal system. 3. Definition, aetiology, pathology, clinical features, differential diagnosis, complication and management. 4. Investigations for differential diagnosis: G.I. endoscopy, barium meal X-ray stomach, gastric acid estimation, stool for occult blood, USG abdomen. 5. Integrated comprehensive treatment of PUD: antacids • gastric acid secretion inhibitors • antibiotic therapy • dietary modification • alcohol/smoking cessation • stress management
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice

Unit 4: Gastrointestinal Disorders	**Hrs. theory**	**Hrs. lab/practical**
Sub-unit 4.2: Diarrhea, Constipation and Vomiting	**Hrs. theory 3**	**Hrs. lab/practical**
Objectives:	Content:	
1. Define Vomiting, Constipation and Diarrhea. 2. Explain the types of Diarrhea. 3. Discuss the causes of Vomiting, Constipation and Diarrhea. 4. Explain the management of Vomiting, Constipation and Diarrhea. 5. Discuss the importance of fiber diet in Constipation. 6. Explain the food habits to precipitate Constipation. 7. Discuss complication of Vomiting, Constipation and Diarrhea.	1. Anatomy and Physiology of oral cavity esophagus, stomach, duodenum, billary tract, small intestine. 2. Definition of Vomiting, Constipation and Diarrhea. 3. Types of Diarrhea. 4. Acute and chronic causes of Vomiting, Constipation and Diarrhea. 5. Management of Vomiting, Constipation and Diarrhea. 6. Importance of fiber diet in Constipation. 7. Food habits to precipitate Constipation. 8. Complication of Vomiting, Constipation and Diarrhea.	
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice	
Unit 4: Gastrointestinal Disorders	**Hrs. theory**	**Hrs. lab/practical**
Sub-unit 4.3: Infectious disorders - Abdominal tuberculosis.	Hrs. theory 2	Hrs. lab/practical
Objectives:	Content:	
1. Describe the condition and cardinal signs of abdominal tuberculosis (T.B.) 2. Identify the aetiology and pathology and clinical features of abdominal T.B. 3. Identify investigations necessary for differential diagnosis. 4. Explain why referral may be necessary to confirm the provisional diagnosis. 5. Describe the complications of untreated abdominal T.B. 6. Describe how to manage diagnosed cases according to SCC, DOTS. 7. Describe the methods of prevention of abdominal T.B.	1. Definition, aetiology, pathology, clinical features, investigations, referral for differential diagnosis, complications, management and prevention of abdominal T.B.	
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice, observation of treatment at DOTS clinic	

Unit 5: Endocrine System Disorders	**Hrs. theory: 7 Hrs. lab/practical: 1**
Sub-unit 5.1: Type 1 & 2 Diabetes Mellitus	**Hrs. theory 4 Hrs. lab/practical 1**
Objectives:	Content:
1. Identify the cardinal signs for type 1 and type 2 diabetes mellitus. 2. Describe the patho-physiology of diabetes mellitus. 3. Differentiate between type 1 and type 2 diabetes. 4. Explain the production and action of insulin. 5. Identify the signs and symptoms of each type of diabetes mellitus. 6. Discuss the incidence and contributing factors for type 1 & 2 diabetes mellitus in Nepal. 7. Give the rationale for administering insulin versus oral hypoglycemic medications. 8. Describe the health consequences of chronic hyperglycemia. 9. Explain the health teaching points for a diabetic patient including the role of diet & exercises in preventing and controlling diabetes. 10. Describe the signs and symptoms of ketoacidosis. 11. Relate the chief treatments for stabilizing a patient with ketoacidosis. 12. Explain complications of diabetes mellitus.	1. Anatomy & physiology of the pancreas 2. Patho physiology of the different types of diabetes 3. Pharmacologic effects of oral/insulin hypoglycemic medicines 4. Methods for assessing hyperglycemia 5. Treatment for ketoacidosis and hypoglycemia 6. Preventive health care for diabetics 7. Demonstrate the blood glucose level of diabetic subjects. 8. Drugs used in diabetes, their contraindications and side effects.
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice
Unit 5: Endocrine System Disorders	**Hrs. theory Hrs. lab/practical**
Sub-unit 5.2: Thyroid disorders	**Hrs. theory 3 Hrs. lab/practical**
Objectives:	Content:
1. Discuss the incidence and causes of hypo- and hyper-thyroidism in Nepal. 2. Identify the cardinal signs and clinical features of each of these disorders. 3. Describe the management and complications of hypo and hyper-thyroidism. 4. Explain the clinical features of thyroid cancers. 5. Identify health education programs for the prevention of thyroid disorder.	1. Incidence, etiologies, diagnosis, management and prevention of hypo- and hyper-thyroidism. 2. Clinical features of thyroid cancers.
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice

Unit 6: Hepatic Disorders	**Hrs. theory: 10 Hrs. lab/practical: 4**
Sub-unit 6.1: Cirrhosis of the liver	**Hrs. theory 3 Hrs. lab/practical**
Objectives:	Content:
1. Describe the anatomy and physiology of the liver. 2. Describe the different types of cirrhosis of liver. 3. Discuss the incidence and aetiology of cirrhosis of the liver. 4. Describe the pathology cardinal signs and clinical features of different types of cirrhosis of the liver. 5. Identify investigations necessary for differential diagnosis. 6. Identify complications of cirrhosis of the liver. 7. Describe how to manage diagnosed cases or stabilize and refer provisionally diagnosed cases of cirrhosis of the liver. 8. Discuss methods of prevention of cirrhosis of the liver.	1. Anatomy and physiology of the liver 2. Definition, types, aetiology, pathology, clinical features, differential diagnosis, investigations, complications, management and prevention. 3. Correlate cirrhosis of liver with alcohol and hepatotoxic drug.
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice
Unit 6: Hepatic Disorders	**Hrs. theory Hrs. lab/practical**
Sub-unit 6.2: Ascites	**Hrs. theory 2 Hrs. lab/practical**
Objectives:	Content:
1. Describe ascites and cardinal signs. 2. Identify the aetiologies, pathology and clinical features of different types of ascites. 3. Identify investigations necessary for differential diagnosis. 4. Identify complications of ascites. 5. Describe how to manage the diagnosed case of ascites. 6. Identify indications for stabilization and referral.	1. Definition, aetiology, pathology, clinical features, complications, investigations, differential diagnosis, management and referral of cases of ascites.
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice
Unit 6: Hepatic Disorders	**Hrs. theory Hrs. lab/practical**
Sub-unit 6.3: Amoebic liver abscess.	Hrs. theory 2 Hrs. lab/practical 2
Objectives:	Content:
1. Define amoebic liver abscess and explain the cardinal signs. 2. Identify the aetiology, pathology and clinical features of liver abscess. 3. Identify the investigations necessary for differential diagnosis. 4. Identify complications of amoebic liver abscess. 5. Describe how to manage the diagnosed case of liver abscess. 6. Identify indications for referral to a higher level facility. 7. Discuss methods of prevention.	1. Definition, aetiology, pathology, clinical features, differential diagnosis, investigation, complication, management, referral and prevention.
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice

Unit 6: Hepatic Disorders	**Hrs. theory**	**Hrs. lab/practical**
Sub-unit 6.4: Hepatitis	**Hrs. theory 3**	**Hrs. lab/practical 2**
Objectives:	Content:	
1. Define hepatitis and discuss the incidence of hepatitis. 2. Identify the aetiology, pathology, cardinal signs and clinical features of the different types of hepatitis. 3. Identify the investigations necessary for differential diagnosis. 4. Identify complications of hepatitis. 5. Describe how to manage the diagnosed case using local resources. 6. Identify indications for referral. 7. Describe the modes of transmission of infectious hepatitis, the methods of prevention and control for each type.	1. Definition, incidence, aetiology, pathology, clinical features, differential diagnosis, investigation, complication, management. 2. Prevention of infectious and non-infectious hepatitis. 3. Vaccinations for hepatitis.	
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice	
Unit 7: Central Nervous System Disorders	**Hrs. theory: 14**	**Hrs. lab/practical: 2**
Sub-unit 7.1: Tetanus	**Hrs. theory 3**	**Hrs. lab/practical 2**
Objectives:	Content:	
1. Discuss the incidence of tetanus. 2. Explain the cause, pathology, cardinal signs and clinical features of tetanus. 3. Describe the investigations and differential diagnosis of tetanus. 4. Describe the immediate management and referral procedure for cases of tetanus. 5. Discuss the socio-cultural factors which result in the high incidence of tetanus. 6. Describe community education and prevention measures for tetanus.	1. Tetanus bacilli, pathology and clinical features of tetanus. 2. Investigations, differential diagnosis, management and referral of tetanus. 3. Incidence and causative factors, preventive measures, immunization schedules.	
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice	
Unit 7: Central Nervous System Disorders	**Hrs. theory**	**Hrs. lab/practical**
Sub-unit 7.2: Poisoning	**Hrs. theory 2**	**Hrs. lab/practical**
Objectives:	Content:	
1. Identify commonly found poisons from chemical, plant, and snake sources. 2. Identify the effect of selected poisons locally and systemically. 3. Describe the appropriate treatments for commonly found poisons and snakebite. 4. Describe how to remove poisons by emesis and gastric lavage; tell exceptions for removal by emesis. 5. Describe symptomatic treatment of poisoning effects. 6. Identify indications for immediate referral.	1. Accidental and intentional causes of poisoning 2. Common poison sources 3. Symptoms and signs of poisoning 4. Emergency management. 5. Recognition of poisoning as medico legal case.	
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice	

Unit 7: Central Nervous System Disorders	**Hrs. theory**	**Hrs. lab/practical**
Sub-unit 7.3: Meningitis and encephalitis	Hrs. theory 3	Hrs. lab/practical 0
Objectives:	Content:	
1. Differentiate between the pathology, cardinal signs and clinical features of meningitis and encephalitis. 2. Discuss the causes of meningitis and encephalitis. 3. Compare the cerebrospinal fluid findings of bacterial, tubercular and viral meningitis. 4. Explain the indications of Lumbar puncture and cerebrospinal fluid examination in diagnosing meningitis 5. Explain common site lumbar puncture. 6. Describe complication & contraindication of lumbar puncture. 7. Describe the complications, health post management, and indications for immediate referral of meningitis and encephalitis. 8. Discuss the management and follow up care for meningitis and encephalitis. 9. Identify components of preventive education for early diagnosis and treatment of meningitis and encephalitis.	1. Etiology, diagnosis, treatment, complications, rehabilitation, and prevention of meningitis and encephalitis. 2. Comparison of the cerebrospinal fluid findings of bacterial, tubercular and viral meningitis. 3. Indications of Lumbar puncture and cerebrospinal fluid examination in diagnosing meningitis 4. Common site Lumbar puncture. 5. Complication & contraindication of performing Lumbar Puncture. 6. Vaccination of meningitis and encephalitis.	
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice	
Unit 7: Central Nervous System Disorders	**Hrs. theory**	**Hrs. lab/practical**
Sub-unit 7.4: Cerebro-vascular accident (CVA)	Hrs. theory 3	Hrs. lab/practical
Objectives	Content:	
1. Identify the causes and incidence of cerebral vascular accidents. 2. Describe the classifications of CVA based on pathology. 3. Describe the cardinal signs and clinical features of mild, moderate and severe CVA. 4. Discuss the differential diagnosis of CVA. 5. Describe the treatment and expected outcomes for each type of CVA. 6. Discuss advice and counseling for the family of this patient, to promote rehabilitation. 7. State the risk behaviors for CVA which you would include in preventive education. 8. Identify indications for referral of a CVA patient for higher level or specialty care.	1. Etiology, classifications, diagnosis, treatment, prognosis. 2. Rehabilitation, counseling and prevention of cerebro-vascular accidents. 3. Difference between ischaemic and hemorrhagic stroke.	
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice	
Unit 7: Central Nervous System Disorders	**Hrs. theory**	**Hrs. lab/practical**
Sub-unit 7.5: Chronic disorders of CNS	**Hrs. theory 3**	**Hrs. lab/practical**
Objectives:	Content:	
1. Identify chronic central nervous system disorders seen in Nepal, their etiologies and incidence. 2. Discuss the cardinal signs and clinical features of each. 3. Identify recommended treatment and prognosis for each. 4. Discuss family counseling for each diagnosis. 5. Describe strategies to prevent or give early treatment for these disorders.	1. Etiology, classifications, diagnosis, treatment, prognosis, rehabilitation, counseling and prevention of central nervous system disorders: a. Multiple sclerosis b. Cerebral palsy c. Muscular dystrophy d. Mental Retardation	
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice	

Unit 8: Musculoskeletal Disorders	**Hrs. theory: 2 Hrs. lab/practical**
Sub-unit 8.1: Arthritis	**Hrs. theory 2 Hrs. lab/practical**
Objectives:	Content:
1. Identify the incidence of osteoarthritis and rheumatoid arthritis. 2. Explain septic arthritis and gout. 3. Describe the cardinal signs, clinical features and pathology of each. 4. Explain the investigations for differential diagnosis. 5. Describe the advice and management for osteoarthritis and rheumatoid arthritis. 6. Identify indications for referral to a higher level facility. 7. Discuss contributing factors in the development of these types of arthritis. 8. Discuss the components of education programs to reduce the incidence of arthritis.	1. Incidence, pathology, diagnosis and management. 2. Prevention of osteoarthritis and rheumatoid arthritis. 3. Septic arthritis and gout. 4. Use of NSAID and its complication 5. Dietary habits.
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice
Unit 9: Urinary System Disorders	**Hrs. theory: 3 Hrs. lab/practical**
Sub-unit 9.1: Renal failure	**Hrs. theory 3 Hrs. lab/practical**
Objectives:	Content:
1. Describe the anatomy and physiology of the renal and urinary system in males and females. 2. Discuss physical examination of the abdomen. 3. Discuss the causes cardinal signs and clinical features of acute and chronic renal failure. 4. Identify indications for referral. 5. Describe the management of acute and chronic renal failure. 6. Identify important components of counseling for the patient with renal failure.	1. Incidence, pathology, diagnosis and management. 2. Prevention of acute and chronic renal failure. 3. Role of water and fluid intake. 4. Diet factors and drug toxicity. 5. Indication of dialysis.
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice
Unit 10: Other Disorders	**Hrs. theory: 3 Hrs. lab/practical**
Sub-unit 10.1: Acute Rheumatic fever	**Hrs. theory 3 Hrs. lab/practical**
Objectives:	Content:
1. Discuss the incidence of Rheumatic fever and explain the cardinal signs. 2. Identify the aetiology, and pathology of Rheumatic fever. 3. Identify the clinical features and investigations for making a differential diagnosis. 4. Explain Jone's diagnostic criteria to diagnose Rheumatic fever. 5. List the complications of Rheumatic fever if early diagnosis and treatment are not given. 6. Describe how to manage the case after diagnosis. 7. State the methods of prevention of Rheumatic fever. 8. Identify aetiology, pathology, clinical features, investigation and management of infective endocarditis. 9. Identify indications that the patient should be referral.	1. Definition, aetiology, pathology. 2. Clinical features and differential diagnosis. 3. Investigations, early diagnosis, management, complications and referral. 4. Prevention and control. 5. Jone's diagnostic criteria to diagnose Rheumatic fever. 6. Aetiology and pathology, clinical features, investigation and management of infective endocarditis.
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice

Unit 11: Infectious Disorders	**Hrs. theory: 7 Hrs. lab/practical**
Sub-unit 11.1: Common communicable diseases	**Hrs. theory 7 Hrs. lab/practical**
Objectives:	Content:
1. Discuss the morbidity and mortality rates of commonly prevalent communicable diseases in Nepal. 2. State the general principles of communicable disease control. 3. Define selected terms relating to the study of communicable disease. 4. Identify the following for selected communicable diseases: - Modes of transmission - Incubation periods - Cardinal signs & Clinical features - Investigations - Differential diagnosis - Management - Complications - Prevention 5. Discuss how to diagnose, treat and prevent prevalence of communicable diseases.	1. Classify disease according to causative agents. 2. Diagnosis, management and prevention of common communicable diseases. i. Malaria ii. Kala-azar iii. Filariasis iv. Dengue fever v. Enteric fever vi. Dysentery (Amoebic & Bacillary) vii. Cholera viii. Giardiasis ix. Brucellosis x. Rabies xi. Food poisoning xii. Influenza xiii. Swine flu (H1N1) xiv. SARS xv. Bird flu xvi. Typhus fever xvii. Worm infestations • Hook worm • Round worm • Trichuristrichiura • Tape worm (Tenia solium, Tania, saginata, H. nana)
Evaluation methods: written exam, viva, performance observation in clinical setting	Teaching / Learning Activities / Resources: classroom instruction, supervised clinical practice
Minimum standards: achieved at 40% accuracy (theory) and 60% accuracy (lab) by end of course.	

Course: Surgery I (General Surgery, Orthopediatics and Physiotherapy)

Hours Theory: 96
Hours Practical: 64
Assessment Marks: 150 (Theory 100 + Practical 50)

Course Description:

This course introduces the student to basic knowledge and skills necessary to identify and manage simple surgical conditions at the Health Post level. The content includes wound care, and abdominal, respiratory, genitourinary, skeletal and malignant conditions. The student will learn to recognize conditions that require surgical interventions at a higher level facility, to stabilize such cases, and manage the referral.

Course Objectives

On completion of the course, the student will be able to:

1. Identify and use common surgical instruments.
2. Perform simple suturing for skin approximation.
3. Perform simple incision and drain of a superficial abscess.
4. Identify and manage the different kinds of shock.
5. Identify and manage cysts, fistulas, sinus cavities.
6. Evaluate and manage poor wound healing, gangrene and necrosis.
7. Identify, manage, and make referrals as necessary for abdominal disorders.
8. Identify, manage, and make referrals as necessary for potentially malignant conditions
9. Identify, manage, and make referrals as necessary for ano-rectal conditions.
10. Identify, manage, and make referrals as necessary genitourinary conditions.
11. Identify, manage, and make referrals as necessary brain or spinal cord injury.
12. Identify, manage, and make referrals as necessary chest injuries.
13. Identify, manage, and make referrals as necessary for orthopedic patients eg. fractures and osteomylitis.
14. Identify common types of anaesthesia, the precautions for each, methods of administration, and prjinciples for selectionof suitable anesthesia.
15. Identify, manage, and make referrals for physical disorders.

Recommended Texts:

1. **Sharma, A.K.,** Principles of Surgery at the DistrictHospital. WHO, current edition.
2. Tierney et al., Current Medical Diagnosis and Treatment**.** Appleton & Lange, Stamford, Conn. Current edition.

Reference Texts:

1. Edwards, C.R.W. and Bouchier, I.A.D., Davidson's Principles and Practice of Medicine. Churchill Livingstone, London. Current edition.
2. Kings, M., et al., Primary Surgery, Vol. I. Oxford Medical Publications, Oxford. Current edition.
3. Kafle, K.K. &Pinniger, R.G., Diagnostic and Treatment Manual for Primary Health Care in the District. HealthLearningMaterialsCenter, Tribhuvan University, Nepal.

Course: Surgery I	**Hrs. theory 96 Hrs. lab/practical 64**
Unit 1: Emergency Treatment	Hrs. theory Hrs. lab/practical
Subunit 1.1: Trauma	**Hrs. theory 4 Hrs. lab/practical 10**
Objectives:	Content:
1. Describe the steps for evaluating the patient's condition in emergency situations. 2. Describe and conduct primary emergency care to stabilize the patient. 3. Describe indications for immediate transfer of patient to higher level facility. 4. Describe measures to maintain the life of the patient during transport.	1. Trauma and types of injury. 2. Methods of controlling external hemorrhage. 3. First aid and emergency treatment. 4. Principles of patient transfer. 5. Management principles of chest trauma. 6. Management principles of fractures. 7. Management of head and spinal cord injuries. 8. Management principles of urinary tract injuries. 9. Management principles of abdominal trauma.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, role play.
Unit 2: Emergency Treatment	Hrs. theory Hrs. lab/practical
Sub-unit 2.1: Head Injury	**Hrs. theory 3 Hrs. lab/practical 2**
Objectives:	Content:
1. Identify the common causes for injury to the brain. 2. Describe the cardinal signs and clinical features of acute and residual brain injury. 3. Describe the process for stabilization of the patient with acute brain trauma, and measures to transport to a higher level facility. 4. Describe the advice and counseling for the family of a person with acute or chronic brain trauma. 5. Identify health education measures to reduce the incidence of brain trauma.	1. Causes, clinical features, pathology, management, prognosis, counseling, referral for acute or residual brain trauma. 2. Use of the Glasgow Coma scale. 3. Use of Traige while managing emergency cases 4. Preventive education measures (motorcycle and bicycle helmets, safety harness for high altitude work, rafting helmets)
Unit 2: Emergency Treatment	Hrs. theory Hrs. lab/practical
Sub Unit 2.2: Shock.	Hrs. theory 4 Hrs. lab/practical 2
Objectives:	Content:
1. Define shock and its types 2. Describe and conduct the appropriate treatments for shock, in order to stabilize the person. 3. Investigate and diagnose the various types of shock. 4. Demonstrate recording of vitals, fluid intake and output. 5. Describe indications for immediate transfer of the patient to a higher level facility. 6. Explain effects of electric shock on cardiac muscle and mention its management.	1. The definition of shock. 2. Types and causes of shock: anaphylactic shock, septic shock, cardiogenic shock, diabetic shock, hypovolemic shock, neurogenic shock. 3. Signs and symptoms of shock. 4. Management of shock. 5. Investigation and diagnosis of the various types of shock 6. Effects of electric shock on cardiac muscle and mention its management.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, role play.

Unit 2: Emergency Treatments	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 2.3: Fluid and electrolyte	**Hrs. theory 3 Hrs. lab/practical 2**
Objectives: 1. Describe the ways the body maintains fluid and electrolyte balance. 2. Demonstrate the methods for assessing hydration. 3. State the principles which guide the in deciding which parenteral fluid to administer, by what route, and at what rate.	Content: 1. Normal distribution and composition of body fluid. 2. Maintaining acid-base balance. 3. Management of mild moderate and severe dehydration. 4. Selecting appropriate injection fluid and their routes of administration. 5. Principles of parenteral fluid replacement therapy.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, role play.
Unit 3: Invasive Procedures	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 3.1: Minor surgical procedures	**Hrs. theory 4 Hrs. lab/practical 4**
Objectives: 1. Identify the name and function of selected surgical instruments. 2. Demonstrate cleaning and sterilization of surgical instruments in various methods, according to guidelines. 3. Describe preoperative site preparation. 4. Demonstrate local anesthesia techniques. 5. Perform selected simple surgical procedures such as incision and drain for abscess, boil, carbuncle, benign simple skin tumor excision, correction for ingrowing toe nail, according to guidelines.	Content: 1. Concepts of medical and surgical asepsis. 2. Simple surgical instrument terminology. 3. Sterilization methods and antiseptics. 4. Techniques for identifying presence of an abscess, boils and carbuncle and achieving incision & drain. 5. Techniques for identifying a benign skin tumor and their management. 6. Nail and nailbed anatomy; indications for removal of ingrown toe nail. 7. Local anesthetics and techniques for administration.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, role play.
Unit 3: Invasive Procedures	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 3.2: Injury care and wound approximation	**Hrs. theory 3 Hrs. lab/practical 4**
Objectives: 1. Differentiate between simple or compound wounds, and between clean or dirty (necrotic) wounds. 2. Demonstrate ways to approximate the edges of a small, clean wound by taping with “butterfly” plasters. 3. Describe ways to clean a dirty wound or debride a necrotic wound. 4. Demonstrate how to put on sterile gloves without contaminating them. 5. Demonstrate ways to achieve approximation of a wound using various methods of suturing.	Content: 1. Principles of wound healing. 2. Classification of wounds. 3. Hand washing and scrub technique. 4. Procedure for putting on sterile gloves. 5. Techniques of simple suturing. 6. Techniques of debridement.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, role play.

Unit 3: Invasive Procedures	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 3.3: Surgical conditions in children	**Hrs. theory 4 Hrs. lab/practical 1**
Objectives:	Content:
1. Describe how to detect common congenital anomalies. 2. Define Hernia , types, diagnose and management of the hernia. 3. Discus the importance of reassuring and counseling the parents to get the appropriate treatments in a timely manner. 4. Identify indications of the emergencysurgical case requiring referral to higher medical facilities after stabilization. 5. Demonstrate the technique for manual and surgical procedure for uncomplicated cases of phimosis and paraphimosis. 6. Identify clinical features which indicate the need to refer for cancer specialty evaluation.	1. Identification of congenital anomalies. Definition of Hernia, its types and diagnose the hernia. 2. Differentiate between inguinal hernia and hydrocele. 3. Identification of intussuception, intestinal obstruction. 4. Assessment of undescended testis, hydrocele, hernia, Epididymo-orchitis 5. Testicular torsion-clinical features and it's management. 6. Assessment of phimosis, paraphimosis. 7. Signs and symptoms of childhood cancer.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, role play.
Unit 4: Dermatological Conditions	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 4.1: Skin inflamnatory disorder, skin ulcer, pressure sore	Hrs. theory 2 Hrs. lab/practical 1
Objectives:	Content:
1. Describe the etiologies and clinical features of common skin inflammation disorders. 2. Identify appropriate treatments for common skin inflammation disorders and dispense medications according to guidelines. 3. Differentiate common skin ulcers and identify the appropriate treatment for each (wound dressing, minor stamp skin graft). 4. Identify indications for referral to specialty facilities in cases suspicious of malignant skin ulcer. 5. Differentiate between gas gangrene and dry gangrene. 6. Explain why the patient with gangrene and gas gangrene requires referral to a higher level facility. 7. describe how to counsel the family about appropriate management to prevent or treat pressure sores.	1. Common skin diseases. 2. Etiology, clinical features and their management. 3. Gangrenous conditions, their etiology, clinical features, pressure sores and their management. 4. Pressure sore and their management.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, role play.

Unit 5: Heart and Lung	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 5.1: Chest injuries	**Hrs. theory 2 Hrs. lab/practical 2**
Objectives:	Content:
1. Classify chest injuries and describe the pathophysiological dynamics of each type. 2. Explain how to manage simple rib fracture. 3. Describe how to detect pneumothorax and hemothorax by diagnostic assessment (percussion, auscultation). 4. Identify indications for immediate referral to a higher level facility.	1. Techniques for chest assessment. 2. Classification of the chest injury, and derived conditions. 3. Clinical features of rib fracture and treatment. 4. Clinical features of pneumothorax and use of underseal water drainage in the hospital setting. 5. Clinical features of hemothorax and health post level treatment. 6. Clinical features of flail chest and health post level treatment.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, supervised clinical practice.
Unit 5: Heart and Lung	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 5.2: Pneumothorax	**Hrs. theory 2 Hrs. lab/practical 2**
Objectives:	Content:
1. Define pneumothorax and tell the cardinal signs. 2. Identify the aetiologies, pathology, and clinical features of each type of pneumothorax. 3. Identify the investigations necessary for differential diagnosis. 4. Identify complications of pneumothorax. 5. Describe the management of diagnosed pneumothorax. 6. Identify indications for prompt referral to a higher level facility.	1. Definition, aetiologies, types, clinical features, pathology, differential diagnosis, investigations, complications and management of pneumothorax.
Unit 5: Heart and Lung	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 5.3: Lung abscess and empyema	**Hrs. theory 2 Hrs. lab/practical 2**
Objectives:	Content:
1. Identify the early and late signs, symptoms and clinical courses of lung abscess and empyema. 2. Describe the primary care treatment for lung abscess and empyema. 3. Identify indications for referral to a higher level facility.	1. Definitions and causes of lung abscess. and empyema thoracis. 2. Etiology, pathophysiology, clinical features, and treatments for lung abscess and empyema.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, role play.

Unit 5: Heart and Lung	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 5.4: Lung Cancer	**Hrs. theory 2 Hrs. lab/practical 2**
Objectives:	Content:
1. Identify the clinical features of lung cancer. 2. Discuss about the possible risk factors for various types of lung cancer. 3. Investigation and diagnose a suspected case of lung cancer. 4. Explain how to encourage the person promptly in specialized hospital. 5. Describe ways to educate individuals and communities about causes and prevention, and early detection of lung cancer.	1. Etiology, classifications, and clinical manifestations of lung cancer. 2. Appropriate referral system. 3. Possible risk factors for lung cancer. 4. Investigations to diagnose a suspected case of lung cancer.
Unit 6: Abdominal Conditions	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 6.1: Anatomy and physiology of the abdomen	**Hrs. theory 3 Hrs. lab/practical 2**
Objectives:	Content:
1. Describe the anatomical characteristics of the gastro-intestinal system (GIT): tongue, esophagus, stomach, small & large intestines, colon, rectum. 2. Describe the anatomy of the abdominal wall and different quadrants of abdomen. 3. Describe the anatomical characteristics of the abdominal wall structures: liver, pancreas, spleen, kidney.	1. Terminology related to the gastrointestinal tract and abdominal organs. 2. Identification of the components and characteristics of the nine abdominal quadrants. 3. Anatomical characteristics and physiological functions of the GIT and abdominal organs.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, role play.
Unit 6: Abdominal Conditions	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 6.2: Acute abdomen	**Hrs. theory 10 Hrs. lab/practical 6**
Objectives:	Content:
1. Describe the condition of acute abdomen. 2. Discuss the causes of Acute abdomen. 3. Identify the etiology, pathology, and clinical features of common causes of acute abdomen. 4. Identify investigations necessary for differential diagnosis of acute abdomen. 5. Describe the complications of acute abdomen. 6. Describe the health post management of acute abdomen and indications for immediate referral and transport to a higher level facility. 7. Describe post-operative follow-up management of abdominal surgery at the health post.	1. Etiology, Clinical features of disease entities which may cause acute abdomen: acute gastroenteritis, acute pancreatitis, acute cholecystitis, peptic ulcer perforation, acute appendicitis, peritonitis. 2. Principles of management of: • Acute gastroenteritis • Acute pancreatitis • Acute cholecystitis • Peptic ulcer perforation • Acute appendicitis • Peritonitis 3. Role of analgesic, antipyretic and antibiotics before diagnosis of acute abdomen.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, supervised clinical practice.

Unit 6: Abdominal Conditions	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 6.3: Hepatobiliary disease	**Hrs. theory 3 Hrs. lab/practical 1**
Objectives: 1. Describe the anatomy and physiology of the liver. 2. Describe the functions of the liver. 3. Identify the clinical features of liver injury in abdominal trauma which requires immediate stabilization and referral. 4. Describe the etiologies, pathologies, and clinical features of gall stones, liver abscess, and hepatoma. 5. Identify investigations necessary for differential diagnosis. 6. Describe the indications which require referral to a higher level facility.	Content: 1. Anatomy and physiologyof liver and gallbladder. 2. Clinical features of liver injury. 3. Clinical features, differential diagnosis and treatment of cholelithiasis(gall stones), amoebic liver abscess. 4. Cholangitis, cholecystitis. 5. Differentiate between pyogenic and amobic liver abscess. 6. Tumor of the liver.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, supervised clinical practice.
Unit 7: Genitourinary Conditions	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 7.1: Genito-urinary tract injury	**Hrs. theory 2 Hrs. lab/practical 1**
Objectives: 1. Describe the correlative anatomy of the genitourinary system. 2. Describe the structure and function of the kidney. 3. Describe the mechanism of urine formation. 4. Describe spermatogenesis and sperm pathway. 5. Describe the procedure of vasectomy and potential complications. 6. Describe basic emergency treatments with genitourinary injury.	Content: 1. Anatomy of the kidney, ureter, bladder and urethra. 2. Physiology of the kidney 3. Anatomy and physiology of the male and female reproductive organs. 4. Spermatogenesis and sperm pathway. 5. Clinical features of surgical complications of vasectomy and their management. 6. Emergency management of genital injuries.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, supervised clinical practice.
Unit 7: Genitourinary Conditions	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 7.2: Urinary stones and urinary tract infection	**Hrs. theory 2 Hrs. lab/practical 1**
Objectives: 1. Define UTI, hematuria and dysuria and its causes and management. 2. Describe how to perform the three test tubes test to differentiate hematuria origin. 3. Describe the mechanism of urinary stone formation. 4. Describe how to counsel patients for prevention of stone formation. 5. Differentiate between the clinical features of urinary tract infection (UTI) and urinary stones. 6. Describe the investigations needed to make a differential diagnosis of UTI or urinary stones. 7. Explain the action of urinary tract analgesics and antispasmodic medicine in the treatment of urinary pain and urinary colic. 8. Identify indications for referral to a higher level facility	Content: 1. Causes and investigations of UTI and hematuria. 2. Etiologies, clinical features and investigations for infections of the urinary tract: urethritis, cystitis, pyelonephritis. 3. Etiologies, clinical features and investigations for infections of the male reproductive system: epididymo-orchitis, prostatitis. 4. Urinary stone formation and classification. 5. Predisposing and contributing factors of urinary stone formation. 6. Symptoms, signs, and treatments of urinary stones. 7. Etiologies, clinical investigations, and differential diagnosis of hematuria.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, supervised clinical practice.

Unit 7: Genitourinary Conditions	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 7.3: Acute retention of urine	**Hrs. theory 3 Hrs. lab/practical 1**
Objectives:	Content:
1. MentionBenign Enlargement of Prostate (BEP), urinary tract infection (UTI), urethral stone. 2. Identify the causes and clinical features of urinary retention and incontinence. 3. Identify steps in conservative management: reassurance, urinary catheterization. 4. Identify conditions indicating resistance to conservative treatment. 5. Describe the procedure for rectal palpation of the prostate gland. 6. Identify the clinical features of benign prostatic hypertrophy. 7. Identify indications for referral to a higher level facility.	1. Causes of dribbling of urineand acute urinary retention. 2. Symptoms and signs of acute urinary retention. 3. Management of acute urinary retention. 4. Technique for rectal examination of the prostate. 5. Etiologies, clinical features and treatments for benign prostatic hypertrophy (BEP)
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, supervised clinical practice.
Unit 8: Rectal and anal Conditions	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 8.1: Rectal and anal disorder	**Hrs. theory 3 Hrs. lab/practical 2**
Objectives:	Content:
1. Describe the procedure for examining the rectum through manual palpation. 2. Describe the causes, clinical features and treatments for rectal bleeding and other common rectal disorders. 3. Identify treatments available among the health post resources. 4. Describe indications that require referral to a higher level facility. 5. Discuss preventive health teaching to reduce the incidence of rectal disease.	1. Rectal anatomy and anal sphincter. 2. Procedure and interpretation of findings for rectal examination. 3. Etiologies, clinical features and investigation and management for: rectal bleeding, hemorrhoids, anal fissure, fistula, rectal prolapse, rectal polyp, ischial rectal abscess.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, supervised clinical practice.
Unit 9: Malignant & Nonmalignant disorders	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 9.1: Head and neck disorder	**Hrs. theory 2 Hrs. lab/practical 1**
Objectives:	Content:
1. Describe the superficial and deep surgical anatomy of the head and neck. 2. Describe the examination technique for differentiating benign and malignant tumors of the head and neck. 3. Describe how to conduct a simple curative operation for the superficial cyst and benign skin tumor. 4. Describe the clinical features which suggest that a malignant tumor may be present, requiring referral for specialty examination and treatment.	1. Revision of head and neck anatomy. 2. Clinical features of congenital tumors and lesions: dermoid cyst, sinus and fistula, thyroglossal, branchialcyst and fistula. 3. Clinical features of salivary gland tumors and thyroid gland tumors, benign salivary gland tumor, goiter and tubercularlymphadenitis. 4. Clinical features of tuberculosis lymphadenitis.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, supervised clinical practice.

Unit 9: Malignant & Nonmalignant disorders	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 9.2: Benign and malignant tumorof skin	Hrs. theory 3 Hrs. lab/practical 1
Objectives:	Content:
1. Differentiate benign and malignant skin lesions by morphological characteristics. 2. Describe the clinical features of gastrointestinal tumors, as found through history taking and physical examination. 3. Identify the causes and contributing factors in the development of these malignancies. 4. Identify indications which require referral for specialized diagnosis and treatment of malignant conditions. 5. Discuss the value and strategies of community education for early detection and prevention of cancer.	1. Clinical features of benign skin tumors, precancerous skin lesions, and malignant lesions (basal cell cancer, squamous cell cancer, melanoma). 2. Clinical features of: GIT and abdominal organ tumors, tongue cancer, esophageal cancer, stomach cancer, colorectal cancer, hepatoma. 3. Clinical features of benign and malignant tumors of the head and neck. 4. Role of sunscreen lotion in the occurrence of skin cancer.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, supervised clinical practice.
Unit 10: Malignant & Nonmalignant Masses	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 10.1: Surgical breast diseases	**Hrs. theory 3 Hrs. lab/practical 1**
Objectives:	Content:
1. Demonstrate the physical examination of the breast, including lymph node palpation. 2. Teach the procedure for breast self examination and counsel the patient to examine her own breasts monthly. 3. Identify signs which may indicate the presence of a malignant lesion. 4. Differentiate between mastitis and breast abscess. 5. Describe or demonstrate how to teach a woman the appropriate treatments for acute mastitis. 6. Demonstrate how to perform incision and drain of breast abscess according to guidelines. 7. Describe the instructions for post-operative care of the Incision and Drainage wound by the patient. 8. Describe indications which require referral.	1. Anatomy and physiology of the breast. 2. Procedure and reasons for breast self examination. 3. Common causes of breast lump. 4. Differentiate breast abscesses from other breast mass. 5. Etiologies, clinical features, differentiation of acute mastitis and breast abscess, benign and malignant breast tumor. 6. Guidelines for procedure of incision and drain, including needle aspiration to confirm abscess. 7. Fibro adenoma 8. Contra indication of needle aspiration and biopsy.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: instructor led discussion, classroom instruction and demonstration, return demonstration, anatomical models, videos, supervised clinical practice.

Unit 11: Skin	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 11.1: Burns and scalds	**Hrs. theory 4 Hrs. lab/practical 3**
Objectives:	Content:
1. Differentiate burns and scalds. 2. Discuss the incidence of burns and common causes of burns in Nepal. 3. Describe how to estimate the extent of burns by the "rule of nines." 4. Describe how to evaluate the depth of a burn. 5. Describe how to estimate prognosis by burn depth and extent. 6. Describe the treatment of burn tissue. 7. Discuss ways to control the severe pain of burn wounds. 8. Describe indications for fluid therapy, and type of fluid therapy required for selected burn cases. 9. Describe indications for referral to a higher level facility. 10. Discuss ways to reduce the incidence of burns in Nepal.	1. Etiological classification of burns. 2. Depth classification of burns. 3. Application of the "rule of nines" to estimate extent. 4. Fluid therapy for burn victims. 5. Burn wound management. 6. Pain management for burn victims.. 7. Prognosis, mortality and prevention of burn injuries. 8. Referral after stabilization of burn (primary management at the site).
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, supervised clinical practice.
Unit 12: Orthopedics	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 12.1: Fractures, splints, immobilization	**Hrs. theory 10 Hrs. lab/practical 4**
Objectives:	Content:
1. Describe the clinical features of a closed fracture. 2. Differentiate between the symptoms of a dislocation and a fracture. 3. State the management of an open fracture. 4. Describe ways to immobilize selected fractures 5. Discuss situations which indicate that immobilization of the neck and spine is required. 6. Describe measures to immobilize the neck and spine. 7. Demonstrate lifting and transporting a patient who must remain immobile. 8. Explain why all fractures should be referred to a higher level facility for management. 9. Describe prevention measures which should be included in community education, such as the use of a safety harness when working at great heights.	1. Define fracture and types of fracture. 2. Mention the sign and symptoms of fracture. 3. Assessment of fractures and dislocations. 4. Immobilization techniques. 5. Pathology of spinal injury. 6. Principles of safe lifting, body mechanics, patient stability.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play, First Aid Manual

Unit 13: Physiotherapy and Rehabilitation	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 13.1 Introduction to Physiotherapy and Rehabilitation	**Hrs. theory 3 Hrs. lab/practical 2**
Objectives:	Content:
1. History of Physiotherapy and Rehabilitation 2. Modalities used in Physical therapy 3. Conditions that are treated with physical therapy 4. Conditions which are prescribed for rehabilitation	1. Introduction to physical therapy and Rehabilitation. 2. Exercise therapy, Therapeutic Massage, Electrotherapy, Magnetotherapy, Hydrotherapy and Cryotherapy 3. Indication of physical therapy. 4. Concept of rehabilitation and its application.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, supervised clinical practice.
Unit 13: Physiotherapy and Rehabilitation	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 13.2 Applied Anatomy and Physiology	Hrs. theory 3 Hrs. lab/practical 2
Objectives:	Content:
1. Discuss the name of major muscles of joints 2. Describe the range of motion of joints 3. Movements at joints 4. Discuss nerves responsible to supply the muscles of upper and lower limbs 5. Discuss nerve conduction and muscle contraction 6. Discuss assessment of muscle power	1. Recall Origin, insertion, Nerve supply and action of - Sternocliedomastoid, Trapezius, Biceps brachi, Triceps, Long flexors and extensors of wrist and fingers, Ileopsoas, gluti, Quadriceps, Hamstring, Tibialis anterior, Gastrocnemius and Soleus, 2. Types and range of Synovial joints 3. Nerves arised from Brachial plexus and Lumbosacral plexus. 4. Physiology of nerve supply 5. Physiology of muscle contraction 6. Muscle work. 7. Manual muscle power tersting
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, supervised clinical practice.
Unit 13: Physiotherapy and Rehabilitation	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 13.3: Therapeutic Exercises	Hrs. theory 3 Hrs. lab/practical 1
Objectives:	Content:
1. Define therapeutic exercises for some health conditions. 2. Explain deformity correction 3. Describe gait training 4. Explain physiotherapy for chest conditions 5. Tell techniques of therapeutic massage and its application.	1. Types, effects and uses of therapeutic exercises. 2. Strengthening exercises 3. Soft tissue stretching and joint mobilisation exercises 4. Application of therapeutic exercises for – 5. Spondyl;osis, spondylolisthesis, retrolisthesis, postural/mechanical back pain, Degenerative and inflammatory joint dioseases, fractures, soft tissue injuries, Stroke, CP and 6. Spinal injuries 7. Indication and contraindication of chest physio 8. Breathing exercises 9. Postural drainage 10. Indication, contraindication and Techniques of Therapeutic massage 11. Application of therapeutic massage in Neck pain, back pain, edema, atrophy and scars.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, supervised clinical practice.

Unit 13: Physiotherapy and Rehabilitation	**Hrs. theory**	**Hrs. lab/practical**
Sub-unit 13.4: Gait and posture	Hrs. theory 3	Hrs. lab/practical 1
Objectives:	Content:	
1. Discuss abnormal gaits its causes and correction 2. Explain crutch walking 3. Differentiate normal and abnormal posture 4. Describe leg length discrepancy	1. Normal and abnormal gait 2. Types and application of crutch gait 3. Measurement of crutch. 4. Measurement of leg length. 5. Normal and abnormal human posture 6. Posture correction	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, anatomical models, videos, supervised clinical practice.	

Course: Obstetrics and Gynecology

Theory: 96 Hrs
Practical: 64 Hrs
Assessment Marks: 100 (Theory 100 + Practical 50)
Weightages: Obstetric 50% + Gynecology 50%

Course Description:
The obstetric component of this course prepares the student to manage cases of normal pregnancy: antenatal care, labor and delivery, and postnatal care of mother and newborn. Additionally, the student is prepared to manage basic complications of these periods, and to identify, stabilize and transport cases requiring referral for expert management. The gynecology component prepares the student to identify and manage common uncomplicated cases of female genitourinary conditions and to recognize indications for referral to higher level health care facilities.

Course Objectives
On completion of the course the student will be able to:

1. Perform a thorough gynecological and obstetrical history taking.
2. Perform a bimanual pelvic exam and identify abnormal conditions.
3. Perform antenatal examinations to identify normal/abnormal progress of pregnancy.
4. Counsel pregnant women regarding safe motherhood practices.
5. Manage common uncomplicated pregnancy related and gynecological conditions.
6. Perform a normal delivery and provide antenatal care to mother and newborn.
7. Identify indications that a pregnancy is high risk or requires expert management and make appropriate referral.
8. Identify abnormal conditions of labor, delivery and neonate and manage the cases using health post resources when necessary.
9. Identify complications which require immediate referral; stabilize and transport such cases to a higher level facility.
10. Implement the policies of the National Guidelines for Maternity Care.
11. Counsel mothers to use safe motherhood practices.
12. Provide community education for safe motherhood.

Recommended Texts:

1. National Maternity Care Guidelines Nepal. Department of Health Services, Nepal, Family Health Division. GON-MCHNepal. Current edition.
2. Lifesaving Skills for Midwives. WHO/UNICEF, Geneva. Current edition.
3. National STDs Management Guidelines.
4. Reproductive Health, National and International Perspectives. Dhirga Raj Shrestha.

Reference Texts:
1 National Reproductive Health Strategy, by the Department of Health Services, Nepal, Family Health Division. HMG-MCHNepal. Current edition.

2 HMG of Nepal Safe Motherhood Policy, by Family Health Division, DOHS, MOH, Kathmandu, Nepal. Current edition.
3 Dutta, D.C., Textbook of Obstetrics. New Central Book Agency, India. Current edition.
4 Dutta, D.C., Textbook of Gynecology. New Central Book Agency, India. Current edition.
5 Dawn, C.S., Textbook of gynecology and Contraception. Dawn Books, India. Current edition.
6 Dawn, C.S., Textbook of Obstetrics and Neonatology. Dawn Books, India. Current edition.
7 Midwifery Manual. Health Learning Materials Centre, Institute of Medicine, Kathmandu. Current edition.
8 Tawara, T., Domiciliary Midwifery, Health Learning Materials Centre, Institute of Medicine, Kathmandu. Current edition.

Course: Obstetrics and Gynecology	**Hrs. theory 96 Hrs. lab/practical 64**
Unit 1: Gynecology	**Hrs. theory 54 Hrs. lab/practical 34**
Sub-unit 1.1: Anatomy and physiology	**Hrs. theory 6 Hrs. lab/practical 2**
Objectives:	Content:
1. Describe the function of each component of the female reproductive system and lower urinary system. 2. Describe the processes of normal ovulation, menstruation, menopause and conception. 3. Identify the role of each of the female hormones. (hcg,human placental lactogen, progesterone, Estrogen) **4.** Explain the common causes for female infertility. 5. Discuss hygiene and cultural beliefs relating to the menstrual process.	1. Anatomy and physiology of female reproduction and lower urinary tract. 2. Terms and patterns of normal menstruation (onset of puberty, monthly cycles, characteristics of menstrual bleeding, menopausal symptoms). **3.** Interferences with female reproduction**.**
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.
Minimum Standards: theory – 40%, lab 60 % accuracy by end of the course.	
Unit 1: Gynecology	**Hrs. theory Hrs. lab/practical**
Sub-unit 1.2: Gynecological history & physical exam	Hrs. theory 10 Hrs. lab/practical 15
Objectives:	Content:
1. Discuss how a Nepali woman may be affected by the experience of a gynecological examination, because of her cultural habits and values. 2. Describe ways to promote the comfort of the patient during the gynecological exam. 3. State the information taken during the gynecological history. 4. Describe the procedure for breast exam. 5. Describe the procedure for bimanual pelvic exam. 6. Discuss obstetrics investigation including ultrasound, 7. Discuss gynecological investigation including pap smear and colposcopy with biopsy. 8. Demonstrate the technique for use of the vaginal speculum in a simulated situation. 9. State the normal and abnormal findings of a pelvic exam. **10.** In a simulated setting, teach a woman how to perform self breast examination.	1. Normal anatomy of female reproductive system. 2. Terms for describing gynecological functioning and abnormalities. 3. Techniques for examination of female reproductive organs (breasts, vulva, vagina, cervix, uterus, tubes, ovaries). 4. Principles of patient education. 5. Discussion obstetrics investigation including ultrasound, 6. Discussion gynecological investigation including pap smear and colposcopy with biopsy. 7. Self-breast examination.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.

Unit 1: Gynecology	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 1.3: Menstruation disorders	**Hrs. theory 5 Hrs. lab/practical 2**
Objectives:	Content:
1. Identify the symptoms and treatment for dysmenorrhea, endometriosis, and premenstrual syndrome. 2. Discuss the common causes for menstrual irregularity. 3. Identify causes of abnormal vaginal bleeding, which are unrelated to pregnancy. 4. Tell how to differentiate and treat the causes of vaginal bleeding (unrelated to pregnancy). 5. Describe the common disorders associated with menopause and the treatments for each. **6.** Discuss the factors, which indicate that a woman should be referred for expert treatment.	1. Common menstrual disorders (Dysmenorrhoea, premenstrual syndrome, menorrhagia, metrorrhagiaand dysfunctional uterine bleeding). 2. The treatment of uncomplicated disorders. 3. Common menopausal disorder and its management. 4. Symptoms of complicated or serious conditions related to menstruation
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.
Unit 1: Gynecology	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 1.4: Disorders of the breast	**Hrs. theory 4 Hrs. lab/practical 2**
Objectives:	Content:
1. Describe the function of each component of the female breast. 2. Describe the breasts changes that occur during pregnancy and lactation. 3. Discuss the causes and treatments for nipple problems related to breastfeeding. 4. Discuss the causes and treatments for mastitis. 5. Differentiate between breast abscess and simple mastitis. 6. Describe the causes, symptoms and treatment of eczema of the breast. 7. Describe the steps in breast self-examination. 8. List indications for referral of women with abnormal breast symptoms.	1. Anatomy & physiology of the breast. 2. Development of the breast, and anatomic variations. 3. Effects of pregnancy & lactation on breast tissues. 4. Common problems of the breast feeding, cracked nipples, mastitis, breast abscess. 5. Breast masses including classification causes, symptoms, management approach. 6. Strategies for treating common problems of breastfeeding. 7. Eczema of the breast 8. Procedure for breast self-examination. **9.** Symptoms of breast masses.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.
Unit 1: Gynecology	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 1.5: Diseases of the vagina, vulva and cervix	Hrs. theory 5 Hrs. lab/practical 2
Objectives:	Content:
1. Describe common infections of the vagina and vulva and treatments for each. 2. Discuss how to use the National STD Management Guidelines for diagnosis by symptoms. 3. Describe variations in vaginal discharge that characterize vaginal infection (color, volume, odor, consistency) 4. Describe the signs and symptoms of the sexually transmitted infections/diseases (STI's/STD's). 5. Tell the complications of STD's. 6. Explain the relationship between STD's and cancer of the reproductive organs. 7. Describe signs of cancerous conditions of the vulva,	1. Characteristics and treatments for common disorders (monilial, trichomonal, gonoccocal, bacterial infections) 2. National STD Management Guidelines. 3. Characteristics and treatment for communicable diseases of the reproductive & urinary tracts**.** 4. Long term effects of chronic or untreated diseases of the reproductive tract.

vagina and cervix. 8. State the signs of Bartholin's cyst. 9. Explain why the treatment of Bartholin's cyst, cancer, or infections non-responsive to treatment should be referred for higher level care.	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.
Unit 1: Gynecology	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 1.6: Disorders of the uterus, ovaries & fallopian tubes	Hrs. theory 4 Hrs. lab/practical 2
Objectives:	Content:
1. Identify the symptoms and treatments of endometriosis, endometrial fibroids, uterine or ovarian tumors. 2. Identify the symptoms and differential diagnosis of Pelvic Inflammatory disease (P. I. D). **3.** Discuss the causes and treatments for PID. 4. State indications which require referral of the patient for higher level care.	1. Common disorders of the uterus, (endometerosis, endometrial fibrosis, endometrial tumors) fallopian tubes and ovaries. 2. Differential diagnosis of PID. 3. Relationship of PID and STI. **4.** The risks of untreated conditions of the internal reproductive organs.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.
Unit 1: Gynecology	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 1.7: Female urinary tract infections	**Hrs. theory 4 Hrs. lab/practical 1**
Objectives:	Content:
1. Differentiate between upper urinary tract infections (UTI) and lower urinary tract infections. 2. Describe the treatment for UTI. 3. Describe the diagnosis and treatment of chlamydia and gonorrhea UTI. 4. State the signs of cystocele and prolapsed uterus. 5. Describe the management of cystocele and prolapsed uterus. 6. Discuss the role of the Health Post Incharge in teaching staff and patients ways to prevent cystocele and prolapsed uterus. 7. Discuss the causes and treatment of stress incontinence and urinary retention. 8. Identify the indications for referral to higher level care.	1. Symptoms and differential diagnosis of upper & lower UTI. 2. Treatment for common UTI. 3. Anatomical relationship of difficult childbirth and inadequate support of the uterus and bladder. 4. Delivery practices which reduce the occurrence of cystocele and uterine prolapse. 5. Muscle exercises and treatments for urine leakage and urinary retention.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.

Unit 1: Gynecology	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 1.8: Genital Prolapse	**Hrs. theory 3 Hrs. lab/practical 2**
Objectives:	Content:
1. Identify sign and symptoms of genital prolapsed. 2. List factors affecting genital prolapsed. 3. List the stages of genital prolapsed. 4. Describe the advice and treatment for genital prolapsed.	1. Definition, causes and stages of genital prolapsed. 2. Sign, symptoms and complication of genital prolapsed. 3. Techniques of assessment of female genital organs. 4. Methods to reduce the risk of complication of genital prolapsed. 5. Correct management of genital prolapsed.
Unit 1: Gynecology	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 1.9: Infertility	**Hrs. theory 4 Hrs. lab/practical 2**
Objectives:	Content:
1. Describe the structural and functional component of male and female genital organs. 2. Define infertility. 3. Describe common causes of infertility in females (including males) 4. Discuss the causes and treatment of infertility. 5. DiscussIn Vitro fertilization (IVF). 6. Discuss Polycystic ovarian diseases. 7. Indication for referral of women/men or both. 8. Interpret the findingof semen analysis.	1. Anatomy and physiology of male and female genital organs. 2. Anatomical and physiological variation in both sexes. 3. Strategies for treating common problems of infertility. 4. Discussion In Vitro fertilization (IVF). 5. Discussion Polycystic ovarian diseases. 6. Semen analysis.
Unit 1: Gynecology	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 1.10: Family Planning methods	**Hrs. theory 6 Hrs. lab/practical 4**
Objectives:	Content:
1. Define and explain different types of contraceptives methods. 2. Explain proper use of contraceptives methods. 3. Recommend appropriate drug or other contraceptive method. 4. Identify drug and non drug treatment. 5. Describe ways to control the population.	1. Definitions and examples of different contraceptive devices. 2. Guidelines for safe use of contraceptives method. 3. Pharmacological action,dose, effects, adverse effects, indication, contra indication of contraceptive methods. 4. Complication of different contraceptive methods.
Unit 1: Gynecology	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 1.11: Sexual assault and abuse	**Hrs. theory 3 Hrs. lab/practical**
Objectives:	Content:
1. Define the various forms of sexual abuse and sexual assault. 1. Discuss the incidence, laws and customs related to sexual assault, trafficking, incest and sexual abuse. 2. Discuss factors that may contribute to the incidence of sexual assault, incest, sexual abuse. 3. Tell the signs which alert the Health Post Incharge that a patient may be the victim of sexual assault, incest, sexual abuse. 4. Tell how the Health Post Incharge would modify the gynecological history taking and physical exam to be sensitive to the feelings of the abused person. 5. Describe ways that the Health Post Incharge can do health education to prevent sexual assault, incest, sexual abuse, and to encourage reporting of	1. Related laws, incidence and ethnic beliefs about sexual assault, trafficking, incest, sexual abuse. 2. The relationship between the incidence of abuse and the protection of rights of vulnerable populations (women, children, mentally weak). 3. Emotional needs of victims of abuse. 4. Management of post-coital contraception.

victimization. 6. Describe the time limitations and procedure of post-coital contraception (emergency contraception).	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.
Unit 2: Obstetrics	**Hrs. theory 42 Hrs. lab/practical 30**
Sub-unit 2.1: Foetal Development	**Hrs. theory 4 Hrs. lab/practical 2**
Objectives:	Content:
1. Explain fertilization and implantation of the zygote. 2. Explain the formation of monozygotic and dizygotic twins. 3. Discuss embryonic development, 0-8 weeks. 4. Describe placenta development and function. 5. Describe foetal circulation. 6. Describe foetal development from the second to ninth months. 7. Explain why the embryo/foetus is especially at risk from teratogens during the first 3 months of development. 8. Describe the effects of alcohol, tobacco, anaemia, protein deficiency vitamin or mineral deficiency on the physical and mental development of the foetus. 9. Tell when foetal movement and foetal heart sounds can first be observed. 10. Describe the positions assumed by the foetus during pregnancy.	1. Anatomy and physiology of conception, embryionic and foetal development. 2. Foetal circulation and placenta function. 3. Interferences with normal growth and development. 4. Health education measures to promote healthy babies.
Evaluation methods: written exams and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and discussion, models, charts, textbook self-study
Unit 2: Obstetrics	**Hrs. theory Hrs. lab/practical**
Sub-unit 2.2: Normal pregnancy	**Hrs. theory 6 Hrs. lab/practical 4**
Objectives:	Content:
1. Identify signs & symptoms indicating pregnancy. 2. Tell how to calculate EDD (Expected date of delivery). 3. Describe the progressive changes to mother and fetus during each month of pregnancy. 4. Describe common minor health conditions of pregnancy and methods to reduce these problems. 5. Tell the nutritional advice to give a pregnant woman. 6. Discuss the role of Vitamin A supplements in preventing night blindness and the risks related to night blindness. 7. List factors which may cause abnormal fetal development. 8. Describe the schedule of antenatal immunizations. 9. State important warning signs, which a woman should report to the health worker.	1. Physiology of normal pregnancy and fetal development. 2. Diagnosis of pregnancy . 3. Use of formula to estimate Period of gestation and expected date of delivery. 4. Methods to reduce common discomforts of pregnancy such as backache, constipation, morning sickness, varicose veins, vulvar itching. 5. Increased nutritional needs in pregnancy 6. Medications, toxins, habits, infections and other factors which are teratogenic. 7. Ante-natal assessment of fetal well-being. 8. Purposes and recommendations for immunizations during pregnancy 9. Symptoms which may indicate a complication of pregnancy
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.

Unit 2: Obstetrics	**Hrs. theory**	**Hrs. lab/practical**
Sub-unit 2.3: Complications of pregnancy	**Hrs. theory 6**	**Hrs. lab/practical 4**
Objectives:	Content:	
1. Identify the factors or symptoms, which indicate a risk for pregnancy complications requiring referral for expert management. 2. Identify the symptoms of threatened abortion and tell what to advise, for preserving the pregnancy. **3.** Describe the various types of abortion which require referral for expert treatment. **4.** Discuss on safe and legal abortion. 5. Differentiate between the various causes of vaginal bleeding. 6. Differentiate between the symptoms of pre-eclampsia and eclampsia. 7. Describe the advice and treatment for pre-eclampsia.	1. The symptoms and risks related to : hyperemesis gravidarum, ectopic pregnancy, placenta previa, acute abdomen, multiple fetus, small for dates, polyhydramnios, hydatidiform mole, hypertensive disorders of pregnancy, cephalo-pelvic disproportion, malpresentation fetus, premature rupture of membranes, Rh incompatibility. 2. The symptoms and risks related to maternal anaemia, heart disease, tuberculosis, endocrine disease, diabetes mellitus, jaundice, genital tract infection, urinary tract & renal disease, use of tobacco, alcohol or drugs, severe malnutrition or obesity. 3. Pregnancy history which indicate increased risk for complications: repeated pregnancy loss, still birth, premature delivery, neonatal death, baby with congenital defect, post partum hemorrhage, retained placenta, prolonged labor, assisted deliveries, caesarean section, perineal surgery, fibroid/cyst/cancer of reproductive organs, history of subfertility. 4. Definitions of abortion (threatened, spontaneous, induced, complete, incomplete, septic) and management of each at the health post or through referral. 5. Accidental and non-placental causes of antepartal vaginal bleeding. 6. Indications for referral to hospital when patient exhibits symptoms of pre-eclampsia. 7. Abortion law in Nepal.	
Evaluation methods: written exams and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.	
Unit 2: Obstetrics	**Hrs. theory**	**Hrs. lab/practical**
Sub-unit 2.4: Normal labor and delivery	**Hrs. theory 7**	**Hrs. lab/practical 8**
Objectives:	Content:	
1. Describe the confirmation of labor 2. Describe the stages of normal labor and delivery for primipara and multipara women. 3. Describe the assessment of the progress of labor: cervical changes, effacement, dilation, mucus show, amniotic release, crowning, duration & frequency of contraction, desire to push. 4. Describe the use of the partograph in assessing the progress of the three stages of labor. 5. Describe measures to promote comfort and the progression of labor. 6. Describe the assessment of the presentation, rotation & descent of the fetal occiput, both vaginally and externally. 7. Describe the procedures for the management of second stage labor.	1. The anatomy and physiology related to normal labor. 2. Assessment of the normal progression of the fetus through the birth canal. 3. Stages of Normallabor. 4. Principles and management of normal labor. 5. The procedure for assisting in the normal delivery of a baby. 6. The principles and procedures for active management of the third stage of labor	

8. Describe procedures for the active management of third stage labor.	
Evaluation methods: written exams	Teaching / Learning Activities/Resources: classroom instruction and discussion.
Unit 2: Obstetrics	**Hrs. theory Hrs. lab/practical**
Sub-unit 2.5: Complications of labor and delivery	Hrs. theory 5 Hrs. lab/practical 4
Objectives:	Content:
1. List the symptoms & causes for complications of labor & delivery. 2. Describe the treatment for premature labor. 3. List the signs & symptoms of prolonged labor/fetal distress/maternal distress. 4. Describe how to assess the need for performing episiotomy. 5. Discuss the criteria for referral of patient with prolonged labor to higher level care center. 6. Describe the process for assessment and treatment of retained placenta, cervical or vaginal tears, uterine atony. 7. Describe how to differentiate the causes of post-partum hemorrhage and tell the treatment for each. 8. Demonstrate the procedure for removal of retained placenta. 9. Demonstrate the procedure for suturing of a simple episiotomy, using local anaesthesia.	1. Definitions, causes, symptoms and treatments for complications of L & D: premature labor, prolonged/obstructed labor, maternal distress, fetal distress, breech delivery, cord prolapse, hand prolapse, postpartum hemorrhage, retained placenta, maternal injuries (vaginal or cervical tears, rupture of uterus, inversion of uterus) 2. Prompt, regular uterine massage for prevention & treatment of uterine atony. 3. Procedure for the manual removal of retained placenta. 4. Methods to reduce the risk of complications of labor and delivery. 5. Correct use of oxytocin after delivery.
Evaluation methods: written exams and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role-play.
Unit 2: Obstetrics	**Hrs. theory Hrs. lab/practical**
Sub-unit 2.6: Newborn care	**Hrs. theory 6 Hrs. lab/practical 4**
Objectives:	Content:
1. Explain the reasons for putting the newborn to breast immediately after birth 2. Describe the procedure for clamping, tying and cutting the umbilicus. 2. Describe suctioning of the nose and mouth. 3. Describe stimulation and resuscitation of the nonbreathing newborn. 4. State the normal range for: weight, length, cardiac rate, and respiratory rate. 5. Explain how to compute the apgar score for newborns. 6. Discuss the risks of hypothermia/hyperthermia and ways to maintain normal body temperature of the newborn. 7. *Perform a newborn exam according to guidelines*. 8. Identify ways to determine the learning needs and learning readiness of the new mother. 9. Counsel the new mother about care of the newborn. 10. Describe the health post management of newborn infections: umbilical sepsis, conjunctivitis, candidiasis, septicemia. 11. Identify conditions that require referral to higher level health care.	1. Hormonal effects of immediate breastfeeding which produce placental expulsion; hypothermia prevention benefits of immediate breastfeeding. 2. Techniques of newborn cord care. 3. Maintaining respiration and temperature in newborns. 4. Assessment of normal physiological signs for newborns. 5. Techniques of newborn assessment-APGAR scoring system. 6. Describe stimulation and resuscitation of the non-breathing child. 7. Necessary newborn care by mothers (umbilical sepsis, conjunctivitis, septicemia). 8. Management of newborn infections.
Evaluation methods: written exams and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and discussion.

Unit 2: Obstetrics	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 2.7: Postnatal care	**Hrs. theory 4 Hrs. lab/practical 2**
Objectives:	Content:
1. State the aims of postnatal care 2. Tell what things to assess when examining the postpartum patient. 3. List the postpartum danger signs to teach the new mother 4. Describe he aims of the 6-week check up. 5. Discuss the symptoms and management of postpartum complications.	1. The progress of normal postpartum recovery 2. Danger signs during postnatal recovery: fever, convulsions, p.v. bleeding or odorous discharge, wound inflammation, calf tenderness, uterine tenderness/swelling, dysuria, sleeplessness or depression. 3. Signs/symptoms and management of postpartum complications: puerperal sepsis, breast infection, deep vein thrombosis, wound infection, urinary tract infection, puerperal psychosis, fistula.
Evaluation methods: written exams	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role-play.
Unit 2: Obstetrics	**Hrs. theory** **Hrs. lab/practical**
Sub-unit 2.8: Postpartum teaching	**Hrs. theory 4 Hrs. lab/practical 2**
Objectives:	Content:
1. List the topics to include when counseling the new mother and family. 2. Describe the characteristics, which show that a new mother has readiness for learning. 3. Discuss cultural beliefs and values, which may promote or interfere with new mother teaching. 4. Identify the health benefits of exclusive breast feeding. 5. *Demonstrate the steps in teaching the new mother to breastfeed*. 6. State the common reasons for failure in breastfeeding, along with prevention strategies. 7. Describe the increased nutritional needs of the lactating mother. 8. State the reasons for postponing pregnancy for 3-4 years after delivery. 9. Tell the immunization schedule for infants and the reason for immunizations. 10. Discuss the reasons a family should take extra care with hygiene following the birth of a baby. 11. Describe symptoms which require a mother to bring her baby for health care.	1. Skills and knowledge necessary for good parenting. 2. Teaching/learning principles for adult learning. 3. Ethnic beliefs related to postpartum care. 4. Techniques for assisting the baby to learn to latch onto nipple and nurse successfully. 5. Prevention and management of lactation problems such as sore/cracked nipples, low milk production, mastitis, foods/medicines to avoid, etc. 6. Need for increased fluid, calcium, protein, and vitamins during lactation. 7. Reasons and methods for beginning family planning 8. Principles of immunization in disease prevention 9. Principles of disease prevention through sanitation 10. Indications of complex health conditions of newborns: severe dehydration, sepsis, persistent cough, respiratory distress, high fever, meningitis, and persistent diarrhea, skin infections.
Evaluation methods: written exams and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role-play.

Course: **Basic Medical Procedures and First Aid**

Hours Theory: **96**
Hours Tutorial: **64**
Assessment Marks: **100 (Theory 100 + Practical 50)**

Course Description:
This course provides the principles and techniques for performing the skills of medical care at the PCL General Medicine level, and includes a basic first aid course. The skills include basic history taking and physical examination, procedures for administering medications, wound care, performing invasive procedures, and simple suturing. The first aid course includes procedures for bandaging, cardiopulmonary resuscitation, and choking, in addition to basic first aid measures.

Course Objectives:
By completion of this course the learner will be able to:

1. Respond appropriately to first aid situations at the health post or elsewhere in the community.
2. Identify first aid situations which require referral to a higher level facility.
3. Perform a basic history taking and physical examination of the patient efficiently and thoroughly.
4. Perform selected basic invasive procedures and wound care according to guidelines.
5. Administer medications by each route safely and efficiently.
6. Maintain medical or surgical asepsis during procedures as needed.
7. Maintain hygienic conditions within the health post.
8. Identify topics for community education to promote safety and reduce preventable injuries.

Recommended texts:

First Aid: the Authorized Manual of St. John's Ambulance Association (current edition)
Manual for Primary Health Care, Health Learning Materials Center, 1999/2055
Fundamentals of Nursing, Health Learning Materials Center
Gupta, Rejesh Kumar and Sharma, Rajiv Kumar, Basic Pathology First Aid and Basic Public Health, Revised and Updated 2nd Edition 2016

Course: Basic Medical Procedures and First Aid	**Hrs. theory 96 Hrs. tutorial 64**
Unit 1: Basic Medical Procedures	**Hrs. theory 44 Hrs. tutorial 30**
Sub-unit 1.1: Professional Role	**Hrs. theory 2 Hrs. tutorial 1**
Objectives:	Content:
1. Define the concept of professionalism. 2. Define legal, ethical, and moral issues with examples. 3. Discuss code of conduct for Health Post Incharge.	1. The concept of professionalism. 2. Definitions and examples of: legal, ethical, and moral. 3. The code of conduct for Health Post Incharge.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role-play.
Unit 1: Basic Medical Procedures	**Hrs. theory Hrs. tutorial**
Sub-unit 1.2: Assessment of vital signs (V. S.)	**Hrs. theory 7 Hrs. tutorial 5**
Objectives:	Content:
1. State the indications and purposes for Vital Signs measurement. 2. Identify factors which interfere with accurate measurements. 3. Discuss implications of abnormal findings. *4.* Explain the significance of accuracy in Vital Signs measurement. 5. Demonstrate proper techniques according to guidelines: a. Palpating pulses at six chief sites b. Counting respirations c. Taking temperature at 3 chief sites d. Measuring blood pressure e. Recording Vital Signs f. Caring for Vital Signs equipment	1. Reviewing anatomy & physiology of respiration, cardiovascular system and temperature. 2. Strategies for careful V.S. assessment. 3. Factors influencing the pulse, respiration and blood pressure. 4. Conditions of measurement of Vital Signs. 5. Procedures for care of Vital Signs equipment. 6. Demonstration proper techniques according to guidelines: a. Palpating pulses at different sites b. Counting respirations c. Taking temperature at different sites d. Measuring blood pressure e. Recording Vital Signs f. Caring for Vital Signs equipment 7. Discussion on pulse oxymetry. 8. Discussion on the basic function of oxygen saturation monitoring device.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role-play.
Unit 1: Basic Medical Procedures	**Hrs. theory Hrs. tutorial**
Sub-unit 1.3: History taking & Physical Examination	**Hrs. theory 8 Hrs. tutorial 3**
Objectives:	Content:
1. Explain the purpose of the history & physical. 2. Describe strategies for organizing a history & physical. 3. List the components of a complete history & physical examination.. 4. Give examples when modifications must be made to the usual history and physical examination. 5. Describe ways to gain the trust of the patient and patient party. 6. Describe ways to provide privacy and promote comfort and cooperation of the patient. 7. Perform a history taking and physical examination in a simulated setting, according to guidelines. 8. Describe how symptom patterns and symptom correlations direct the process of differential diagnosis.	1. Ways to collect subjective and objective data about the patient. 2. What things to assess for each category: "General appearance." "Chief complaint/history of chief complaint" "History of present illness" "Past medical history" "Family history" "Social/personal history Developmental history Dietary history Drug history Menstrual history Immunization 3. Inspection of the patient. 4. Palpation of chest and abdomen.

9. Examine the diagnostic diagram for "abdominal pain" in the Manual for Primary Health.	5. Percussion of chest and abdomen. 6. Techniques for auscultation. 7. Assessment of Jaundice, Anemia, Lymph nodes, Cyanosis, Clubbing, Oedema. 8. Techniques for examining body systems. 9. The importance of clustering and analyzing data for patterns and correlations of symptoms, which direct the process of differential diagnosis.
Evaluation methods: written and viva exams, performance observation	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role-play.
Unit 1: Basic Medical Procedures	**Hrs. theory** **Hrs. tutorial**
Sub-unit 1.4: Administration of oral and topical medicines	**Hrs. theory 5** **Hrs. tutorial 3**
Objectives:	Content:
1. Tell the advantages and disadvantages of the various routes for medication administration. 2. Explain how medicines are absorbed by the body from the GI tract, skin, or membranous tissue. 3. Tell what functions are served by topical medications. 4. Give examples of medicines, which can be absorbed through the skin. 5. Tell what things may interfere with the absorption of oral or topical meds. 6. Discuss ways to modify giving oral medicine when the patient is unable to cooperate with swallowing pills. 7. Describe the "5 rights" in the administration of all drugs. 8. Describe the procedure for administering drugs into the eye, ear, nose, rectum, vagina or onto the skin. 9. Discuss procedures for recording medication administration. 10. Demonstrate administration of drugs by all of the above routes according to guidelines.	1. Advantages and disadvantages of each mode of medicine administration. 2. Principles and physiology of medication absorption. 3. Procedure for safe administration of drugsbyorally, rectum, vagina, on topically, into the eye conjunctiva and external ear. 4. Factors increase or reduce the effect of oral and topical medications. 5. Safe medication administration procedures: Right patient, right medicine, right dose, right route, right time.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.
Unit 1: Basic Medical Procedures	**Hrs. theory** **Hrs. tutorial**
Sub-unit 1.5: Administration of IM & IV medicines	**Hrs. theory 7** **Hrs. tutorial 7**
Objectives:	Content:
1. Tell the advantages and disadvantages of drugs administration by the intramuscular (IM) and intravenous (IV) routes. 2. Identify the types of drugs which are administered by subcutaneous (SC or SQ) or intradermal (ID) routes. 3. Identify appropriate sites for IM administration in adults, children and infants. 4. Explain why there are increased risks when drugs is injected directly into the vein. 5. State the precautions which must be followed to protect the patient from harmful IV medicine administration. 6. Describe the procedures for administering IM and IV	1. Principles and procedures for parenteral medications. 2. Safe needle management. 3. Risks of administering drugs directly into the vein. 4. Guidelines for administration of medicine via parenteral routes.

drugs, or beginning IV fluids, according to guidelines. 7. Describe the technique and reason for using the "Z track" method of IM administration. 8. Describe principles and procedures for safe needle disposal. 9. Demonstrate one-handed needle recapping, to use when a safe needle disposal container is not readily available. 10. Demonstrate administration of drugs by the above routes according to guidelines.	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: skill guidelines, textbook self-study, classroom instruction and demonstration, return demonstration, models, videos, role play.
Unit 1: Basic Medical Procedures	**Hrs. theory** **Hrs. tutorial**
Sub-unit 1.6: Universal precaution & Infection control	**Hrs. theory 5** **Hrs. tutorial 3**
Objectives:	Content:
1. Differentiate between surgical asepsis (free from all organisms) and medical asepsis (free from pathogens) 2. Explain the principles and rationale for medical asepsis and surgical asepsis. 3. Discuss the ways to maintain sanitation in the health post setting. 4. Demonstrate proper handwashing technique, according to guidelines. 5. State the principles and rationale for using careful handwashing. 6. Discuss when to use different kinds of handwashing procedures. 7. Demonstrate aseptic technique when using instruments for an aseptic procedure. 8. Demonstrate handling sterile instruments during a sterile procedure.	1. definitions and implications of sterile, aseptic and non-sterile. 2. procedures for application of principles of medical and surgical asepsis. 3. principles and procedures for handwashing and sanitation. 4. proper handling of aseptic and sterile equipment.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.
Unit 1: Basic Medical Procedures	**Hrs. theory** **Hrs. tutorial**
Sub-unit 1.7: Invasive Procedures	**Hrs. theory 5** **Hrs. tutorial 4**
Objectives:	Content:
1. State the risks to a patient with each of these invasive procedures: urinary catheterization, Intravenous insertion, nasogastric insertion. 2. Explain what is meant by implied consent. 3. Discuss ways to make the invasive procedures less uncomfortable for the patient. 4. Suturing techniques 5. Dressing techniques 6. Tell the signs of complications for each of these invasive procedures. 7. Demonstrate these procedures according to the guidelines.	1. Application of medical and surgical asepsis to selected invasive procedures. 2. Patient rights to refuse invasive procedures. 3. Guidelines for selected invasive procedures, urinary catheterization (male & female, indwelling and straight catheterization), insertion of intravenous cannula and opening an I.V. line, nasogastric tube insertion and principles for tube feeding, Nebulization techniques.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.

Unit 1: Basic Medical Procedures	**Hrs. theory** **Hrs. tutorial**
Sub-unit 1.8: Medical and Surgical Set Preparation	**Hrs. theory 5** **Hrs. Practical: 4**
Objectives:	Content:
1. Prepare the following sets: • Suturing set • Dressing set • Incision and drainage set • Emergency drug kits. • Foreign body removal set 2. Demonstrate essential surgical and medical instrument with their functions	1 Preparation by students themself: • Suturing set • Dressing set • Incision and drainage set • Emergency drug kits : as per standard • Foreign body removal set, 2 Demonstration of essential surgical and medical instrument with their functions: Forceps, Otoscope, Torch light, Sutures, Providone iodine, Ambu Bag, Respiratory timer
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.
Unit 2: First Aid	**Hrs. theory 52** **Hrs. tutorial 34**
Sub-unit 2.1: Principles of First Aid	**Hrs. theory 5** **Hrs. tutorial 4**
Objectives:	Content:
1. Discuss the aims of first aid and the responsibility of the first aider. 2. Describe the initial actions of the first aider. 3. List the essential principles of first aid. 4. Describe the steps of assessment, management and disposal of the casualty case.	1. Purpose of first aid 2. Essential principles of first aid 3. Procedures for assessment and intervention in first aid 4. Disposal and communication responsibilities 5. Principles of triage with multiple casualties
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play, self-study from First Aid Manual
Unit 2: First Aid	**Hrs. theory** **Hrs. tutorial**
Sub-unit 2.2: Dehydration, heat reaction, altitude sickness, hypothermia, frostbite	Hrs. theory 4 Hrs. tutorial 2
Objectives:	Content:
1. State examples of when persons might be at risk for dehydration, heat reaction, altitude sickness, hypothermia, frostbite. 2. Describe the signs and symptoms of dehydration, heat reaction, altitude sickness, hypothermia, frostbite. 3. Describe the recommended immediate treatment for each of these. 4. Describe indications that immediate referral to a higher level facility is necessary. 5. Explain how community education can prevent occurrences of dehydration, heat reaction, altitude sickness, hypothermia, frostbite or ensure a safe recovery.	1. Clinical features of mild, moderate and severe dehydration, heat reaction, altitude sickness, hypothermia, frostbite. 2. Correct use of rehydration salts and other treatments for dehydration, heat reaction, altitude sickness, hypothermia, frostbite. 3. Indications of severe cases of dehydration, heat reaction, altitude sickness, hypothermia, frostbite which require expert management.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play, First Aid Manual

Unit 2: First Aid	**Hrs. theory**	**Hrs. tutorial**
Sub-unit 2.3: Animal and snake bite, and Insect stings	**Hrs. theory 5**	**Hrs. Practical: 3**
Objectives:	Content:	
1. Discuss the incidence of injury due to snake bites, animal bites, Insect stings and poisoning. 2. Explain the pathophysiology, types of snake poison (Neuro toxic and Hemato toxic), sign and symptoms, emergency and emergency management of poisons snake bites. 3. Explain aetilogy, reservoir, and mode of transmission, incubation period of rabies and management of suspected rabid animal bites. 4. Discuss prevention and control of rabies in animal and human population including vaccinations. 5. Discuss common insect bites, complications, and management. 6. Discuss indications that a casualty is or may have a severe allergic reaction to an insect sting. 7. Describe the appropriate management for cases of animal bites, stings or pois**o**ning. 8. Discuss why a tourniquet is no longer used for snakebite, and describe the recommended management. 9. Describe the recommended use of emergency medications for bites and stings. 10. Describe indications that the casualty should be removed to a higher level medical facility immediately. 11. Discuss ways to reduce the incidence of bites, stings and poisonings through community education.	1. Discussion on the incidence of injury due to snake bites, animal bites, Insect stings and poisoning. 2. Explanation of the pathophysiology, types of snake poison (Neuro toxic and Hemato toxic), sign and symptoms, emergency and emergency management of poisons snake bites. 3. Methods of proper diagnosis of snake bites 4. Explanation of aetilogy, reservoir, and mode of transmission, incubation period of rabies and management of suspected rabid animal bites. 5. Discussion on prevention and control of rabies in animal and human population including vaccinations (Pre exposure and Post exposure). 6. Discussion on common insect (Wasp, Hornet and Bee) bites, complications(including laryngeal oedema), and management. 7. Indications that a casualty is or may have a severe allergic reaction to an insect sting. 8. Explanation of "tourniquet" is no longer used for snakebite. 9. Description on the recommended use of emergency medications for bites, stings and poisons. 10. Indications of the casualty should be removed to a higher level medical facility immediately. 11. Ways to reduce the incidence of bites, stings and poisonings through community education.	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play, First Aid Manual	
Unit 2: First Aid	**Hrs. theory**	**Hrs. tutorial**
Sub-unit 2.4: Wounds, burns and bandaging	**Hrs. theory 7**	**Hrs. Practical 3**
Objectives:	Content:	
1. Describe closed and open wounds, lacerations, contusions, and abrasions. 2. Describe how to manage a laceration, puncture wound, or gunshot wound. 3. Demonstrate selected types of bandaging. 4. Describe procedures for controlling hemorrhage: pressure dressings, pressure point constriction. 5. Tell indications for selecting to approximate a wound with "butterfly" taping, versus suturing. 6. Differentiate between different kinds of burns: chemical, friction, thermal, electrical. 7. Identify the characteristics of 1st, 2nd and 3rd degree burns. 8. Describe the management of each degree burn. 9. Describe indications that a person with a wound should be transported to a higher level facility.	1. Terminology for various types if injury. 2. Recommended first aid treatment of closed or open wounds (abrasions, contusions, lacerations, puncture wounds, or burns). 3. Techniques of bandaging. 4. Control of hemorrhage. 5. First aid assessment and treatment of burns.	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.	

Unit 2: First Aid	**Hrs. theory**	**Hrs. tutorial**
Sub-unit 2.5: Hemorrhage	**Hrs. theory 5**	**Hrs. tutorial 3**
Objectives:	Content:	
1. Describe the appropriate interventions for severe hemorrhage from: an extremity, abdominal wound, scalp wound, neck laceration. 2. Explain why a tourniquet is harmful for most circumstances of hemorrhage. 3. Describe the signs/symptoms of internal hemorrhage: abdominal, subdural, intracranial, thoracic. 4. Discuss primary, reactionary and secondary hemorrhage. 5. Describe blood grouping and cross matching. 6. Explain blood transfusion, it's storage, indication, complication & contraindication. 7. State the interventions for stabilization. 8. Describe the precautions on transporting a patient.	1. The difference between arterial versus venous bleeding. 2. Symptoms and implications of hemorrhagic shock. 3. Interventions for controlling internal and external hemorrhage. 4. Discussion on primary, reactionary and secondary hemorrhage. 5. Description of blood transfusion, it's storage, indication, complication & contraindication.	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.	
Unit 2: First Aid	**Hrs. theory**	**Hrs. tutorial**
Sub-unit 2.6: Management of severe breathlessness/COPD and Status asthmaticus.	**Hrs. theory 4**	**Hrs. tutorial 2**
Objectives:	Content:	
1. Identify the common causes for breathlessness (shortness of breath). 2. Identify the distinguishing features characteristic of each cause of breathlessness. 3. Describe measures available at the health post to relieve breathlessness. 4. Identify the questions to ask to analyze the causes of breathlessness in the person. 5. Identify indications for referral to a higher level facility.	1. Causes of breathlessness: a. asthma b. pulmonary embolism c. pneumothorax d. pulmonary edema e. heart failure f. chronic obstructive pulmonary disease g. hysteria h. uremia 2. Distinguishing characteristics of common causes of breathlessness. 3. Management and referral.	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.	
Unit 2: First Aid	**Hrs. theory**	**Hrs. tutorial**
Sub-unit 2.7: Heart attack	**Hrs. theory 3**	**Hrs. tutorial 4**
Objectives:	Content:	
1. Describe the path physiology of myocardial infarction (M.I.) 2. Differentiate between angina and M.I. 3. Describe the common symptoms of M.I. 4. Identify immediate treatment for M.I. available at the health post. 5. Identify indications for immediate referral to a higher level facility.	1. Recall: Anatomy and physiology of the heart; pathology of myocardial infarction. 2. Clinical features of myocardial infarction and angina. 3. Stabilization of M.I. case for transport to higher level facility.	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.	

Unit 2: First Aid	**Hrs. theory**	**Hrs. tutorial**
Sub-unit 2.8: Epileptic seizure	**Hrs. theory 2**	**Hrs. tutorial 1**
Objectives:	Content:	
1. Identify the causes and clinical features of epileptic seizure (fits). 2. Differentiate between epileptic seizure and hysterical fits. 3. Describe the appropriate management of a seizure (fit) for adults and children. 4. Tell when an emergency medication should be administered to the person experiencing unrelenting seizure (fit), and discuss the type, dosage and route of administration. 5. Demonstrate correct positioning to maintain the airway of an unconscious person. 6. Describe indications for immediate transport of the casualty for higher level care. 7. Discuss measures to educate the community about prevention and treatment for seizures.	1. clinical features of grand mal or other epileptic seizure (fit) 2. positioning for airway maintenance 3. recommended emergency medications for status epilepticus	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.	
Unit 2: First Aid	**Hrs. theory**	**Hrs. tutorial**
Sub-unit 2.9: Concussion and Stroke (CVA)	Hrs. theory 3	Hrs. tutorial 1
Objectives:	Content:	
1. Describe the clinical features of a skull fracture. 2. Define concussion. 3. Describe the signs and symptoms of mild, moderate and severe concussion. 4. Identify the appropriate initial management of mild, moderate and severe concussion. 5. Describe the pathology of a stroke, or cerebral vascular accident (CVA). 6. Describe the signs and symptoms of mild, moderate or severe stroke. 7. Identify the immediate actions to take for the person who has had a mild, moderate, or severe stroke. 8. Identify indications that the person who has had a concussion or stroke should be transported to a higher level facility immediately.	1. signs and symptoms and management of mild, moderate and severe concussion 2. procedure for evaluating brain damage at 15 minute intervals (Central Nervous System Check) a. alertness & orientation b. voluntary movement/equilateral strength c. pain or numbness d. pupils equal and reactive to light e. reflexes normal f. vital signs g. vomiting/projectile vomiting	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.	
Unit 2: First Aid	**Hrs. theory**	**Hrs. tutorial**
Sub-unit 2.10: Assessment of unconscious person	**Hrs. theory 4**	**Hrs. tutorial 3**
Objectives:	Content:	
1. Define the terms related to assessment of level of consciousness. 2. Describe how to assess the ABC's of vital functions: a. airway clear b. breathing adequate c. circulation and cardiac function good 3. Identify the signs of common causes of unconsciousness. 4. Demonstrate placement of the unconscious person in recovery position or in shock position.	1. Definition of terms: a. full consciousness b. drowsiness c. stupor d. coma 3. Principles of emergency assessment. 4. Common causes of unconsciousness: a. asphyxia b. head injury	

5. Explain why the Health Post Incharge should begin IV infusion for the unconscious patient. 6. Identify important information to ask of the persons accompanying the casualty. 7. Describe how to examine the body for evidence of injury or bites. 8. Identify emergency medications to use in the management of each of the causes of unconsciousness listed above. 9. Identify indications for immediate transfer to a higher level facility. 10. Discuss measures to ensure safe transport.	c. shock d. fainting e. stroke f. poisoning g. heart attack h. convulsions i. diabetic emergency j. conversion disorder (hysteria) 5. Management of different causes of unconsciousness. 6. Indications and procedures for transfer.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: textbook self-study, classroom instruction and demonstration, return demonstration, models, videos, role play.
Unit 2: First Aid	**Hrs. theory** **Hrs. tutorial**
Sub-unit 2.11: Choking and obstructed breathing	**Hrs. theory 3 Hrs. tutorial 2**
Objectives:	Content:
1. Describe the symptoms of partial or complete airway obstruction due to choking. 2. Identify other common causes for airway obstruction. 3. Demonstrate how to position an unconscious person to maintain an airway. 4. Demonstrate how to assist the conscious and unconscious person with partial or complete airway obstruction by foreign body. 5. Identify indications for immediate referral to a higher level facility. 6. Describe the features of a community education program designed to prevent choking and teach the Heimlich maneuver.	1. Signs and symptoms of complete and partial airway obstruction. 2. Oedema of throat, laryngospasm, obstruction by tongue with unconsciousness. 3. Positioning the unconscious patient. 4. Principles and procedure for performing the Heimlich maneuver. 5. Preventive measures and community education.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.
Unit 2: First Aid	**Hrs. theory** **Hrs. tutorial**
Sub-unit 2.12: Cardiopulmonary Resuscitation (CPR)-drowning, cardiac arrest	**Hrs. theory 5 Hrs. tutorial 4**
Objectives:	Content:
1. Identify the conditions which require CPR. 2. Give examples of causes of asphyxiation or cardiac arrest. 3. Differentiate between “dry drowning” and “wet drowning”. 4. State how many minutes a child or adult may survive without oxygenation to the brain. 5. Describe the symptoms of choking which indicate application of the Heimlich maneuver. 6. Describe the steps in assessment and intervention for the adult without respiration, pulse, or both 7. Tell the difference between CPR procedure for adult, child, infant, pregnant woman. 8. Describe ways to safely remove the source of electricity from a victim of electrocution before administering CPR.	1. Conditions which require CPR, and those which do not. 2. The process and principles of CPR 3. The process and principles of the treatment of choking with the Heimlich maneuver 4. Circumstances which require modification of these procedures **5.** The anatomy and physiology of the heart and lungs .

9. Describe how to remove stomach contents from the victim of drowning, in order to increase ventilation by CPR.	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.
Unit 2: First Aid	**Hrs. theory** **Hrs. tutorial**
Sub-unit 2.13: Multiple casualty/ multiple injury triage	**Hrs. theory 2** **Hrs. tutorial 2**
Objectives:	Content:
1. Define the concept of triage and explain the purpose of triage. 2. Describe how to quickly assess airway, breathing, circulation and alertness. 3. List the other factors to assess, in order of importance. 4. State the rationale for decisions about which measures should be taken first. 5. Discuss the factors which may influence the decisions about which patients will receive priority for care. 6. Discuss the feelings a health worker may experience when he/she must apply the principles of triage to a multiple victim situation.	1. The principles and procedure of triage 2. Basic life support functions of the body 3. Legal and ethical issues of emergency care
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, videos, role play.

First Clinical Exposure in Hospital Setting

After completion of 16 weeks of second year theory and simulation practice in institution, student will be placed in 48 working days equal to 8 weeks (8*40=320 hours) clinical practice in hospital setting.

Objective:

The students would be able to

- History taking
- Physical examination:
  - General examination
  - Systematic examination
- Provisional diagnosis
- Differential diagnosis
- Investigation:
  - Laboratory and radiological
- Final diagnosis
- Management:
  - Treatment
  - Referral
  - Rehabilitation
  - Prevention and control measures
  - Follow up

Note: Each student will perform a minimum of 10 history taking, physical examination with provisional diagnosis, differential diagnosis, final diagnosis and case management in detail.

Students would be able to learn by self-study, group discussion and problem based learning.

Course: Clinical Pathology

Hours Theory: 96
Hours Practical: 32
Assessment Marks: 100 (Theory 80 + Practical 20)
Weightages: (Microbiology 25% + Parasitology 25%+ Hematology 20 %+ Biochemistry 30%)

Course Description:

This is an introductory course to basic clinical pathology and is divided into four different units. Unit first is about medical microbiology involving morphology of different categories of microorganisms, their relation to human diseases, basic identification techniques and, their growth & sterilization properties. Unit two contains medical parasitology and deals about mode of infection, pathogenicity, laboratory diagnosis & preventive measures of important intestinal as well as blood & tissue parasites of man including different kinds of defense mechanisms of a body. Unit three deals about human blood & its constituents together with different hematological techniques. Unit four is about medical biochemistry including the biochemical processes of - digestion & absorption of foods, metabolism of different kinds of foods & their disturbance effects in our body together with the physiological roles of different kinds of vitamins & enzymes.

Course objectives

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

1. Describe different kinds of microorganisms related to human diseases.
2. Describe different kinds of parasites and their pathogenic effects to a human body.
3. Describe the formation and functions of different components of blood.
4. Describe the biochemical processes of different kinds of foods in our body.
5. Identify the role of vitamins & enzymes in our body.
6. Perform basic microbiological, biochemical and haematological tests in the laboratory setting.

Recommended Texts:

1. Dr. Bharatmani Pokhrel. A Hand book of clinical microbiology, Gorakhnath Desktop printing and Support, Kathmandu.
2. Gupta, Rajesh K. and Yadav Binod K., A Text book of Medical Laboratory Technology (Volume I and II), Samikshaya Books, Bagbazar, Kathmandu.
3. Chatterjee, K.D. 1981. Parasitology. Chatterjee Medical Publishers, Calcutta, India.
4. Chatterjea, M.N. and Shinde, R. 1998. Textbook of Medical Biochemistry. Jaypee Brothers Medical Publishers (P) Ltd., India.
5. Chevalking, H., Tuladhar T. & Shrestha U. 1992. Integrated Sciences. Health Learning Materials Centre, P.O. Box 2533, Ktm., Nepal.

Reference Books:

1. Paniker, C.K. 1993. Textbook of Medical Parasitology. Jaypee Brothers Medical Publishers (P) Ltd., New Delhi, India.

Course: Clinical Pathology	**Hrs. theory 96 Hrs. lab 32**
Unit 1: Medical microbiology	**Hrs. theory 22 Hrs. lab**
Sub unit 1.1: General Introduction to Microbiology	Hrs. theory 10 Hrs. lab
Objectives:	Content:
1. Describe the morphology of bacteria: cocci, bacilli, vibrio, spiral, and spirochaetes. 2. Describe the morphology of virus: polyhedral, hellical, hexagonal, spherical, etc. 3. Describe the morphology of fungi: yeasts and molds. 4. Describe the morphology of parasitic protozoa/helminthes in general. 5. Describe the classification of microorganisms: bacteria, viruses, fungi, protozoans and helminths. 6. List at least 20 different bacterial diseases. 7. List at least 10 viral diseases. 8. List at least 10 fungal diseases. 9. List at least 5 protozoan diseases. 10. List at least 10 helminthes diseases. 11. Name the corresponding causative organisms of each of the above diseases.	1. Morphology of different kinds of microorganisms. 2. Classification of microorganisms on the basis of morphology. 3. Common diseases caused by microorganisms.
Evaluation methods:	Teaching / Learning Activities:
Written examination, viva, observation of performance in lab	Classroom instruction, textbook/reference book self-study, journals, laboratory practice, appropriate visual means for morphology of different microorganisms.
Unit 1: Medical microbiology	**Hrs. theory Hrs. lab**
Sub unit 1.2: Basic bacteriological investigations	Hrs. theory 5 Hrs. lab 2
Objectives:	Content:
1. Explain the theory & principle of Gram staining. 2. Perform Gram staining according to guidelines. 3. Explain the theory & principle of acid fast bacillus (AFB) staining. 4. Perform AFB staining according to guidelines. 5. Define culture and culture media. 6. List culture media for bacteria, viruses, and fungi. 7. Describe methods for antibiotic susceptibility testing: (a) Tube dilution technique. (b) Paper diffusion technique.	1. Theory, principles and procedure for Gram staining and AFB staining. 2. Culture media and cultivation techniques of bacteria, viruses and fungi. 3. Antibiotic susceptibility testing.
Evaluation methods:	Teaching / Learning Activities:
Written examination, viva, observation of performance in lab	Classroom instruction, textbook/reference book self-study, journals, laboratory practice

Unit 1: Medical microbiology	**Hrs. theory** **Hrs. lab**
Sub unit 1.3: Bacterial growth and sterilization	Hrs. theory 7 Hrs. lab
Objectives:	Content:
1. Define bacterial growth and generation time. 2. Derive the growth rate of bacteria. 3. Draw the growth curve of bacteria 4. Describe the different phases of growth – lag, log, stationary, decline & survival, etc. 5. Describe factors influencing bacterial growth. 6. Define sterilization. 7. Describe physical methods of sterilization. a) Most heat (steam under pressure and fractional sterilization) b) Dry heat (hot air sterilization, incineration) c) Radiation (x- rays, gamma rays, cathode rays, etc.) d) Filtration. 8. Describe chemical methods of sterilization (formaldehyde, gluteraldehyde, ethylene oxide, β–propiolactone, etc) 9. Identify the usual materials to be sterilized by each of the above methods of sterilization.	1. Bacterial growth characteristics, generation time and factors influencing bacterial growth. 2. Physical and chemical methods of sterilization.
Evaluation methods:	Teaching / Learning Activities:
Written examination, viva, observation of performance in lab	Classroom instruction, textbook/reference book self-study, journals, laboratory practice
Unit 2: Medical parasitology	**Hrs. theory 26 Hrs. lab 8**
Sub Unit 2.1: Intestinal Parasites	Hrs. theory 14 Hrs. lab 6
Objectives:	Content:
1. Describe mode of infection, pathogenicity , laboratory diagnosis and preventive measures of: *a) Ascaris* b) Hookworm c) *Trichuris* d) *Enterobius* e) *Taenia* f) *Echinococus* g) *Hymenolepis* h) *Entamoeba* i) *Giardia* j) *Trichomouas*.	1. Mode of infection, pathogenicity, laboratory diagnosis and prevention of intestinal parasites.
Evaluation methods:	Teaching / Learning Activities:
- Written examination, viva, observation of performance in lab	Classroom instruction, textbook/reference book self-study, journals, laboratory practice, slides

Unit: 2 Medical parasitology	**Hrs. theory** **Hrs. lab**
Sub Unit 2.2: Blood and tissue parasites	Hrs. theory 7 Hrs. lab
Objectives:	Content:
1. Describe modes of infection, pathogenicity, laboratory diagnosis and preventive measures for: a) *Plasmodium* b) *Leishmania* c) *Wuchereria*	1. Modes of infection, pathogenicity, laboratory diagnosis and prevention of blood and tissue parasites of body.
Evaluation methods:	Teaching / Learning Activities:
Written examination, viva, observation of performance in lab	Classroom instruction, textbook/reference book self-study, journals, laboratory practice, slides
Unit: 2 Medical parasitology	**Hrs. theory** **Hrs. lab**
Sub Unit 2.3: Defense mechanisms of the body	Hrs. theory 5 Hrs. lab
Objectives:	Content:
1. Describe the defense mechanisms of body (individually, specific and non-specific). 2. Identify external defense mechanisms of body. a) Skin, mucous membranes and other mechanical barriers. b) Coughing, sneezing, perspiring and related processes. 3. Describe non-specific defense mechanisms of body (interferon, phagocytosis, complement and proprederin, Natural Killer (NK) cells). 4. Describe specific defense mechanisms of body (active and passive immunity and their types). 5. Define antigens and antibodies and give examples of each. 6. Describe the types of antibodies (immunoglobulins).	1. Different kinds of defense mechanisms of body. 2. Terminology related to defense mechanisms of body. Immunology Rh factor Gammaglobulia Immune System Active Immunity Phagocyte Passive Immunity Chemotaxis Histamine Chemoattractant Opsin Complement Ontigen B-lymphocyte T-lymphocyte Natural Killer cells Antibody Immuroglobulia Oncogene Memory Cell
Evaluation methods:	Teaching / Learning Activities:
Written examination, viva, observation of performance in lab	Classroom instruction, textbook/reference book self-study, journals, laboratory practice

Unit 3: Hematology	**Hrs. theory 15 Hrs. lab**
Sub Unit 3.1: Blood and anticoagulants.	Hrs. theory 15 Hrs. lab
Objectives:	Content:
1. Describe the general composition of blood. 2. Describe the formation mechanism of RBC, WBC, Platelets and plasma. 3. List functions of WBC, RBC, and plasma cells. 4. Describe the structure, function, estimation (Shali's method) and normal values of hemoglobin. 5. Describe methods of blood collection for: a) Hematological investigations. b) Biochemical investigations. c) Microbiological investigations. 6. Define anticoagulants, their types and use, etc. 7. Describe test method (Bulk dilution and Pipette dilution) for WBC total count, test-method for WBC differential count with their normal values. 8. Describe test methods (Wintrobe method) and normal value of erythrocyte sedimentation rate (ESR) of blood.	1. Blood characteristics, hematological tests, and blood collection techniques.
Evaluation methods:	Teaching / Learning Activities:
Written examination, viva, observation of performance in lab	Classroom instruction, textbook/reference book self-study, journals, laboratory practice
Unit 4: Clinical Biochemistry	**Hrs. theory 33 Hrs. lab**
Sub Unit 4.1: Carbohydrates	Hrs. theory 6 Hrs. lab
Objectives:	Content:
1. Define carbohydrates. 2. Classify carbohydrates. a) Monosaccharides i) depending upon number of carbon atoms ii) depending upon aldehyde or ketone group b) Disaccharides c) Oligosaccharides d) Polyasaccharides i) Homopolysaccharides ii) Heteropolysaccharides. 3. Describe digestion and absorption of carbohydrates (give biochemical reactions of digestion of carbohydrates in the GI tract) 4. Describe the process of glycolysis, glycogenesis, glycogenolysis, gluconeogenesis and Kreb's citric acid cycle.	1. Definition, classification, chemical properties and metabolism of carbohydrates.

5. Explain the carbohydrate metabolism disturbance in diabetes mellitus. 6. Describe the glycemic effects of diabetes mellitus caused by inadequate or unavailable insulin.	
Evaluation methods:	Teaching / Learning Activities:
Written examination, viva, observation of performance in lab	Classroom instruction, textbook/reference book self-study, journals, laboratory practice
Unit 4: Clinical Biochemistry	**Hrs. theory** **Hrs. lab**
Sub Unit 4.2: Proteins	Hrs. theory 6 Hrs. lab
Objectives:	Content:
1. Define proteins 2. Classify proteins a) on the basis of shape and size (fibrous and globular proteins) b) on the basis of functional properties (defense, contractile, respiratory, structural, enzymes, hormones). c) on the basis of solubility and physical properties. i) Simple proteins – protamines, histones albumins, globulins, gliadines (prolamines), glutelins , scleroproteins or albuminoids, etc. ii) Conjugated proteins – nucleoproteins, mucoproteins , glycoproteins, phosphoproteins, chromoproteins (hemo-, flavo and visual purple proteim), lipoproteins, metalloproteins , etc. iii) Derived proteins (from simple and conjugated proteins) - coagulated proteins cooked meat, cooked egg albumin and alcohol precipitated proteins, proteoses, peptones, peptides, etc. 3. Write down the reactions involved during digestion of proteins. 4. Write down the reactions involved during transamination, deamination and urea cycle with enzyme systems involved.	1. Definition, classification, chemical properties and metabolism of proteins.
Evaluation methods:	Teaching / Learning Activities:

Unit 4: Clinical Biochemistry	**Hrs. theory** **Hrs. lab**
Sub Unit 4.3: Lipids	Hrs. theory 6 Hrs. lab
Objectives:	Content:
1. Define lipids 2. Classify lipids i) Simple lipids – neutral fats, waxes ii) Compound lipids- phospholipids, glycolipids, sulfolipids, aminolipids and lipoproteins. iii) Derived lipids- several fatty acids, mono and di – glycerides, alcohols, etc. iv) Miscellaneous – carotenoids , squalene, Vitamins E and K, etc. 3. List chemical properties of lipids. 4. Describe chemical properties of lipids - saponification, hydrogenation and esterification, etc. 5. Describe digestion (biochemical reactions) and absorption of lipids. 6. Define cholesterol and list its physiological roles. 7. Write down the reactions involved during ketosis, β-oxidation of fatty acids.	1. Definition, classification, chemical properties, digestion and absorption and metabolism of lipids.
Evaluation methods:	Teaching / Learning Activities:
Written examination, viva, observation of performance in lab	Classroom instruction, textbook/reference book self-study, journals, laboratory practice
Unit 4: Clinical Biochemistry	**Hrs. theory** **Hrs. lab**
Sub Unit 4.4: Enzymes	Hrs. theory 6 Hrs. lab
Objectives:	Content:
1. Define enzymes. 2. Classify enzymes into the six basic types – oxidoreductases, hydrolases, ligases (synthetases), transferases, lyases, isomerases. 3. Define different units of enzymes: a) International Union of Biochemistry (1961): U mole/min. b) International system of Units (I): Katal (kat) – mole/sec. c) Derive relationship between the two: IU = 16.67n kat. 4. Define isoenzymes with examples. 5. List isoenzymes of LDH, ALK – Phosphatase and CPK and mention their clinical significances.	1. Definition, classifications and different units of enzymes. 2. Definition and clinical significance of isoenzymes of lactate dehydrogenase (LDH), Alakaline phosphatas (Alk-phosphatase) and creatine phosphokinase (CPK)
Evaluation methods:	Teaching / Learning Activities:
Written examination, viva, observation of performance in lab	Classroom instruction, textbook/reference book self-study, journals, laboratory practice

Unit 4: Clinical Biochemistry	**Hrs. theory**	**Hrs. lab**
Sub Unit 4.5: Vitamins	Hrs. theory 6	Hrs. lab
Objectives:	Content:	
1. Define vitamins. 2. List general properties of vitamins. 3. Classify vitamins – fat-soluble and water-soluble. 4. Give chemistry of vitamins. 5. List sources of each of the vitamins. 6. Describe physiological roles of all vitamins.	1. Definition, classification, chemistry and sources and physiological roles of vitamins.	
Evaluation methods:	Teaching / Learning Activities:	
Written examination, viva, observation of performance in lab	Classroom instruction, textbook/reference book self-study, journals, laboratory practice	
Unit 4: Clinical Biochemistry	**Hrs. theory**	**Hrs. lab**
Sub Unit 4.6: Hormones	Hrs. theory 3	Hrs. lab
Objectives:	Content:	
1. Define hormones. 2. Classify Hormones 3. Describe the mechanism of action.	1. Definition, classification, functions and mechanism of hormones.	
Evaluation methods:	Teaching / Learning Activities:	
Written examination, viva, observation of performance in lab	Classroom instruction, textbook/reference book self-study, journals, laboratory practice	

Practical	
Course: **Clinical Pathology**	Hrs. theory Hrs. lab
Unit 1: Experiments on clinical pathology	**Hrs. theory** **Hrs. lab**
Sub Unit 1: Practical applications	Hrs. theory Hrs. lab 32
Objectives:	Content:
1. Identify handling techniques of different laboratory goods. 2. Perform gram stain and AFB stain. 3. Perform stool examination for ova, cyst and parasites. 4. Perform microscopic examination of urine for urinary deposits. 5. Perform chemical examination of urine for sugar, albumin and pregnancy test. 6. Demonstrate urine test for ketone bodies and bile pigment. 7. Demonstrate urine test for bile salt and urobilinogen. 8. Demonstrate blood glucose determination. 9. Demonstrate urea estimation. 10. Perform preparation, staining and examination of thick and thin blood smears. 11. Estimate hemoglobin level. 12. Demonstrate TLC, DLC and ESR of blood. 13. Reference ranges of mention parameters: 14.	1. Handling techniques of different laboratory goods. 2. Different – microbiological and biochemical investigations. 3. Reference ranges of : • Blood Sugar (Fasting, random & Post Prandial) • Renal Function Test (RFT): Urea, Creatinine, sodium, potassium, calcium, uric acid • Liver Function Test (LFT): Bilirubin total and direct, SGPT, SGOT, Alkaline Phosphatase, Total Protein, albumin, Globulin and A:G Ratio • Lipid Profile: Total Cholesterol, Triglycerides, HDL Cholesterol, LDL Cholesterol, VLDL Cholesterol. • Cardiac profile: CPKMB, LDH, SGOT, CPK-NAC. • Serum amylase • Thyroid Function Test (TFT): T3, T4 and TSH
Evaluation methods:	Teaching / Learning Activities:
Written examination, viva, observation of performance in lab	Classroom instruction, textbook/reference book self-study, journals, laboratory practice, Textbooks, etc.

Course: Clinical Pharmacology and Pharmacy

Hours Theory: 96
Hours Practical: 32
Assessment Marks: 100 (Theory 80 + Practical 20)
Weightages: (Pharmacology 80% + Pharmacy 20%)

Course Description:

This course introduces the student to the rational use of drugs commonly available in the health post and primary health center. This course teaches students to identify adverse drug reactions and manage properly. The Pharmacy Practical includes simple preparations or formulation that may need to be performed in the health post pharmacy, and the procedures for dispensing and managing drug supplies.

General Objectives

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

1. Select appropriate medicines for conditions according to guidelines provided by clinical pharmacology and disease control and treatment policy.
2. Identify adverse drug reactions and their management.
3. Identify indications and contraindications of commonly used drugs.
4. Select alternative drug as a substitute of first line drug which is contraindicated.
5. Prepare simple syrup, solutions, suspension lotions and ointments.

Recommended Textbooks:

1. Joshi, M.P. and Adhikari, R.K., Manual of Drugs and Therapeutics. Distributed by Health Learning Materials Center, Kathmandu, Nepal. 1996.
2. Current Index of Medical Specialties. Bio-Gard Private Limited, Bangalore, India. Current edition.

Recommended References:

1. Katzung Basic and Clinical Pharmacology, Published by McGraw- Hill Medical; India, Current Edition
2. Kafle, K.K. & Pinniger, R.G., Diagnostic and Treatment Manual for Primary Health Care in the District. Health Learning Materials Center, Tribhuvan University, Nepal.
3. Tripathi, K.D., Essentials of Medical Pharmacology. Published by Jaypee Br. , New Delhi. current edition.
4. Satoskar, R.S. et al. Pharmacology and Pharmacotherapeutics. Published by Popular Prakashan, Mumbai.or current edition.
5. Laurence, D.R., et al., Clinical Pharmacology 8th ed.Published by Churchill Livingstone, London.current edition.
6. Handbook for Drug Retailers and Wholesalers. Produced by Government of Nepal, Department of Drug Administration. current edition.
7. Dr. Satish Kumar Deo, *Deo's Basics of Clinical Pharmacology, First Edition,* Published by: .Ultimate Hi-Tech Press (P.) Ltd., Lazimpat, Kathmandu

Course: Clinical Pharmacology and Pharmacy	**Hrs. theory 96 Hrs. lab 32**
Unit 1: Clinical Pharmacology	**Hrs. theory 82 Hrs. lab 16**
Sub Unit 1.1: Introduction to pharmacology	Hrs. theory 14 Hrs. lab 2
Objectives:	Content:
1. Define pharmacological terminology. 2. Classify drug, explain its sources. 3. Identify side effects, toxic effects, withdrawal effects, allergies, and Adverse Drug Reactions (ADR). 4. Describe preventive measures to minimize Adverse Drug Reaction. 5. Provide emergency management of Adverse Drug Reactions 6. Calculate child dose. 7. Identify chemical, proprietary and non-proprietary name of commonly using drugs. 8. Identify the importance of pharmacodynamic study. 9. List safe drugs for pregnant and lactating woman. 10. Explain the importance of pharmacokinetic study. 11. Mention different pharmaceutical dosage form. 12. List causes and preventive measures of microbial resistance.	1. Definition of pharmacology, pharmacodynamics, pharmacokinetics, pharmacy, clinical pharmacology, drug, medicine, poison, toxicology, indication and contraindication. 2. Classification of drug according to use, action and source 3. Adverse effects a. Definitions, classifications with examples. Define Side Effect, toxic effects and withdrawal effects, Define allergy (anaphylaxis, delayed hypersensitivity, cytotoxic type reaction, immune complex mediated reaction), idiosyncrasy b. Adverse Drug Reaction (ADR), classification and important manifestations c. Preventive measures of Adverse Drug Reaction. d. Definition and importance of Pharmacovigillance 4. Calculation of dose a. Definition and classifications of dose b. Calculation of child dose (Young's formula, Dilling's formula, Fried's formula and percent method) c. Definition, cause, type and preventive measures of microbial resistance. 5. Drug's nomenclature: chemical name, non-proprietary and proprietary name 6. Definition of drug action and effect; fundamental types; identified main factors modifying effects and their implication on dosage adjustment and restriction of use 7. Teratogenic drugs a. Definition of teratogenic effects with its examples b. Guidelines for safe use of drug in pregnancy c. Drugs to be avoided and can be used safely in pregnancy and lactating mother. d. Principles to be followed during Geriatric prescribing 8. Definition of pharmacokinetics and its importance a. absorption: definition, process, factors affecting absorption b. bioavailability: definition. c. protein binding: plasma protein and muscular tissue protein binding. d. distribution and penetration: placental barrier and blood brain barrier e. metabolism: definition, classification of metabolites, list its process; definition of

	presystemic metabolism f. elimination of drug: list routes of drug elimination 9. Dosage forms: definition and its classification a. solid dosage form (tablet, capsule, powder, granules) b. semisolid dosage form (ointment, suppository, pessary) c. liquid dosage form: i. for oral: syrup, tincture, suspension, elixir ii. for parenteral: vial, ampule, infusion iii. for local: paints, tincture, liniment lotion d. Others: aerosol
Evaluation methods: written exam, viva	Teaching / Learning Activities & Resources: classroom instruction, handouts
Unit 1: Clinical Pharmacology	**Hrs. theory** **Hrs. lab**
Sub Unit 1.2: Locally acting drugs	**Hrs. theory 5** **Hrs. lab 2**
Objectives:	Content:
1. List different locally acting preparation according to conditions. 2. Apply correctly. 3. Describe special precautions, Contraindication, Indication, adverse effect and its management.	1. Definition of local route, local application, local anaesthetic, germicide, keratolytic agent, soothing agent, astringent and oxidizing agents. 2. Adverse effect, preparation, dose, merits and demerits, contraindications (C/I) and indications for lignocaine, gentian violet, mercurochrome, acriflavin, potassium permanganate, zinc permanganate, aromatic water, spirit, calamine powder, zinc oxide, zinc sulphate, calamine lotion, salicylates, sulfur, benzoic acid, Whitfield ointment, benzyl benzoate, chlorhexidine, cetrimide, chloroxylenol and iodine, nystatin, clotrimazole and neomycin. 3. Process of application of different preparations on various conditions, like application of benzyl benzoate for scabies and pediculosis
Evaluation methods: written exam, viva	Teaching / Learning Activities & Resources: classroom instruction, handouts
Unit 1: Clinical Pharmacology	**Hrs. theory** **Hrs. lab**
Sub Unit 1.3: Anti-cancer and Antimicrobial agents	Hrs. theory 18 Hrs. lab 3
Objectives:	Content:
1. List chemotherapy of respiratory tract infection, urinary tract infection (UTI), gonorrhea, syphilis, diphtheria, whooping cough, tetanus, enteric fever, meningitis and septicemia according to guidelines provided by clinical pharmacology authorized body of Nepal Government. 2. Identify 1st and 2nd line drugs for various infections. 3. Identify adverse effects and their management. 4. Follow guidelines for rational use of drugs. 5. Select chemotherapy for sputum positive pulmonary tuberculosis; identify ADR (Adverse Drug Reaction) and their management. 6. Select MDT (Multi Drug Therapy) for MB & PB leprosy according to guideline of leprosy control division; identify ADR (Adverse Drug Reaction), MDT (Multi Drug Therapy) resistance and its management.	1. Definition of antimicrobial agents: antibacterial, antifungal, sulfonamides, antiviral, antiprotozoal, antineoplastic, anthelmintic 2. Definition and classification of antibiotics 3. β-lactum antibiotic: introduction and Mode of Action. a. Penicillins: dose and dosage form, Adverse Effect, Contraindication, Indication, merits, demerits and therapeutic uses of penicillin G, penicillin V, ampicillin, amoxycillin, methicillin, cloxacillin, flucloxacillin b. Cephalosporins: adverse effects, contraindication, Indication, merit and demerit of first, second, third and fourth generation cephalosporins

7. Select chemotherapy of benign, cerebral and resistance malaria. 8. Identify ADR (Adverse Drug Reaction) on chemotherapy of malaria and its management. 9. Select chemotherapy of invasive dysentery, chronic intestinal amoebiasis and systemic anaerobic infections. 10. List chemotherapy of leishmaniasis. 11. Select ideal antihelmintic and use it appropriately. 12. Identify conditions requiring use of systemic antifungal drug and its use rationally. 13. Describe how to use acyclovir rationally.	4. Macrolides: Mode of Action, dose and dosage form , Adverse Effect, Contraindication, Indication, merit, demerit and therapeutic uses of erythromycin, azithromycin., roxithromycin, Clarithromycin 5. Tetracycline's: Mode of Aaction, dose & dosage form, Adverse Effect, Contraindication, Indication, merits, demerits and therapeutic uses of oxytetracycline, doxycycline and minocycline 6. Chloramphenicol: Mode of Action, dose & dosage form, Adverse Effect, Contraindication, Indication, guidelines for chloramphenicol therapy and therapeutic uses 7. Cotrimoxazole: composition, Mode of Action, dose & dosage form, Adverse Effect, Contraindication, Indication,merit, demerit and therapeutic uses. 8. Aminoglycosides: Mode of Action, dose & dosage form, Adverse Effect, Contraindication, Indication,, merit, demerit and therapeutic uses of streptomycin, gentamycin, amikacin 9. Quinolones: Mode of Action, dose & dosage form, Adverse Effect, Contraindication, Indication, merit, demerit, and therapeutic uses of ciprofloxacin, norfloxacin, ofloxacin and nilidixic acid 10. Antitubercular drugs: a. list first and second line antitubercular drugs b. identify Mode of Action, dose & dosage form, Adverse Effect, Contraindication, Indication of rifampicin, isoniazide, pyrazinamide, ethambutol, streptomycin c. principle of antitubercular therapy d. Short course chemotherapy and chemoprophylaxis according to guideline of (Nepal Tuberculosis Programme) NTP 11. Antileprotic drug: a. List antileprotic drugs available b. Mode of Action, dose & dosage form, Adverse Effect, Contraindication, Indicationof dapsone, clofazimine c. ROM therapy and Multy Drug Therapy (MDT) for multibacillary and pausibacillary leprosy 12. Antimalarial drugs: a. Define and list the antimalarial drugs b. Mode of Action, dose & dosage form, Adverse Effect, Contraindication, Indication , merit, demerit and therapeutic uses of chloroquine, primaquine c. Chemoprophylaxis, chemotherapy 13. Antiamoebic drugs: a. Define and classify antiamoebic drugs b. Mode of Action, dose & dosage form, Adverse Effect, Contraindication and therapeutic uses of metronidazole, tinidazole and diloxanide c. chemotherapy of invasive intestinal amoebiasis, chronic intestinal amoebiasis and

	hepatic amoebiasis, giardiasis, trichomoniasis 14. Drugs for leishmaniasis: a. definition with examples b. toxic effects and dose& dosage form of sodium stibogluconate, pentamidine 15. Antihelminthic drugs a. definition with examples b. classification: vermicide and vermifuge c. Mode of Action, dose & dosage form, Adverse Effect, Contraindication and therapeutic uses of mebendazole, albendazole, piperazine, pyrental, niclosamide, praziquantel, Diethyl carbamazine (DEC) d. list 1st and 2nd line drug for infection due to roundworm, hook worm, thread worm, whip worm, S. stercoralis, H. nana, V. bancrofti, T. saginata and solium, E. granulosus. 16. Antifungal drugs: a. definition with examples b. Adverse effect, dose &dosage form and indication of Griseofulvin, Miconazole, Ketoconazole, Itraconazole 17. Antiviral drugs: e. definition with examples f. Mode of Action, dose & dosage form, Adverse Effect, Contraindication therapeutic uses of acyclovir. 18. Preventive measure of antibiotic resistance
Evaluation methods: written exam, viva	Teaching / Learning Activities & Resources: classroom instruction, handouts
Unit 1: Clinical Pharmacology	**Hrs. theory** **Hrs. lab**
Sub Unit 1.4: Drugs used in Common GI problems	Hrs. theory 6 Hrs. lab 2
Objectives:	Content:
1. Prescribe drug therapy for Acid Pepsin Disorder (APD) and peptic ulcer rationally. 2. Select ideal antiemetics according to guidelines of rational use of antiemetics. 3. Apply process of atropinization in treatment of poisoning and identify therapeutic uses and contraindications of atropine. 4. Identify ADR due to over-atropinization and its management. 5. Select an ideal antispasmodic and use it rationally. 6. Choose and use laxative according to guideline and can explain contraindication. 7. List antimotility drugs and their disadvantages on therapy of diarrhea. 8. Select ideal antimotility drug and use rationally for non-specific mild diarrhea.	1. Antacids: a. definition and classification b. Mode of Action, dose & dosage form, Adverse Effect, Contraindication and therapeutic use of aluminum hydroxide, magnesium trisilicate, sodium bicarbonate 2. Ulcer healing drugs: H_2 receptor antagonist (ranitidine, famotidine), proton pump inhibitor (omeprazole, pantoprazole and rabiprazole); Adverse effect, dose & dosage form and therapeutic uses; antibiotic therapy. 3. Triple Drug therapy for Acid Pepsin Disorder (APD), peptic ulcer 4. Antiemetics: a. definition with its types b. Mode of Action, dose & dosage form, Adverse Effect, Contraindication and therapeutic uses of promethazine, metoclopramide, domperidone, ondensetron c. Guidelines for rational use of antiemetics 2. Antispasmodics a. definition with examples

	b. Mode of action, effects on various systems, Affect effect, therapeutic uses and contraindication of atropine. Process of atropinization in poisoning c. Affect effect, dose & dosage form and therapeutic uses of Atropine, hyoscine, drotaverine d. Mode of Action, dose & dosage form, Adverse Effect, Contraindication and therapeutic uses of pentazocine 3. Laxatives and purgatives a. definition, classification with properties and examples b. Mode of Action, dose & dosage form, Adverse Effect, Contraindication and therapeutic uses of magnesium sulfate, liquid paraffin, senna preparations, bisacodyl, isapgol c. choice and use of laxative and its contraindications 4. Antimotility drugs: a. definition with examples b. brief description , therapeutic use of codeine, diphenoxylate, loperamide, pectin, bismuth salt, prepared chalk, kaolin
Evaluation methods: written exam, viva	Teaching / Learning Activities & Resources: classroom instruction, handouts
Unit 1: Clinical Pharmacology	**Hrs. theory** **Hrs. lab**
Sub Unit 1.5: Drugs used in common respiratory problems	Hrs. theory 5 Hrs. lab
Objectives:	Content:
1. Select ideal bronchodilator and describe its therapeutic use on asthma, status asthmaticus and Chronic Obstructive Pulmonary Disease (COPD). 2. Identify dose & dosage form, Adverse Effect, Contraindication, Indication of bronchodilators and manage ADR. 3. Select ideal drugs for cough, allergic disorders rationally. 4. Administer drug rationally for indication of emesis in case of poisoning.	1. Definition of antitussive, classify it with examples 2. Definition of bronchodilator 3. Mode of action, effects on various systems, Adverse effect, dose, Contraindication and therapeutic uses of ephedrine, salbutamol, terbutaline, aminophylline, theophyllin and etiophyllin combination 4. Define antihistamine with it's classification. 5. Mode of Action, dose & dosage form, Adverse Effect, therapeutic uses of chlorpheniramine, pheniramine, cetrizine, levocetrizine, fexofenadine , 6. Brief description on ipecacuanha, ammonium salt, bromhexine, potassium salt, volatile oils and vasaka syrup
Evaluation methods: written exam, viva	Teaching / Learning Activities & Resources: classroom instruction, handouts
Unit 1: Clinical Pharmacology	**Hrs. theory** **Hrs. lab**
Sub Unit 1.6: Rehydration therapy	Hrs. theory 3 Hrs. lab 1
Objectives:	Content:
1. Identify conditions which need rehydration therapy. 2. Provide rehydration therapy according to guidelines of clinical pharmacology and WHO. 3. Recognize ADR and its management during Electrolyte Replacement Therapy.	1. Definition of dehydration and its causes 2. Oral Rehydration Therapy (ORT): definition with its advantages 3. Oral rehydration salts (ORS): composition (New WHO) preparations, dosage form, indications and process of administration.

	4. Electrolyte Replacement Therapy (ERT): composition, adverse effect, merit, demerit and indications for normal saline, dextrose solution, Dextrose Normal Saline (DNS,) Ringer Lactate (RL) and plasma expanders, dialysis Fluid and electrolyte solution.
Evaluation methods: written exam, viva	Teaching / Learning Activities & Resources: classroom instruction, handouts
Unit 1: Clinical Pharmacology	**Hrs. theory** **Hrs. lab**
Sub Unit 1.7: Vaccines, antisera and immunoglobulins	Hrs. theory 5 Hrs. lab 2
Objectives:	Content:
1. Explain EPI according to Child Health Division. 2. Prescribe rationally different vaccines and antisera like ARV, hepatitis B, J.E., TAB, cholera, ATS, ADS, anti-snake venom polyvalent. 3. Test hypersensitivity for administration of antisera and desensitization techniques for safe and effective use.	1. Vaccine: definition, importance and its types with examples. 2. Antisera: definition , importance and its types with examples. 3. Immunoglobulin's: definition , importance and its types with examples. 4. Type, dose, time of administration, adverse effect, efficacy of: BCG, DPT, polio oral, measles, TT, antirabies, hepatitis B, J.E., typhoid paratyphoid A paratyphoid B (TAB), cholera, Anti tetanus serum(ATS), ADS, anti-snake venom polyvalent, anti-rabies serum (ARS) 5. Recent Immunization Schedule as approved by Ministry of Health 6. Concept on storage and transport devices for vaccine and cold chain system
Evaluation methods: written exam, viva	Teaching / Learning Activities & Resources: classroom instruction, handouts
Unit 1: Clinical Pharmacology	**Hrs. theory** **Hrs. lab**
Sub Unit 1.8: Vitamins and minerals	Hrs. theory 2 Hrs. lab
Objectives:	Content:
1. Identify conditions for rational use of different vitamins and minerals. 2. Select vitamins and minerals appropriately.	1. Preparation and therapeutic uses of: vitamin A, vitamin B-complex, vitamin C, vitamin E, vitamin B_{12}, folic acid, iron, iodine and calcium.
Evaluation methods: written exam, viva	Teaching / Learning Activities & Resources: classroom instruction, handouts
Unit 1: Clinical Pharmacology	**Hrs. theory** **Hrs. lab**
Sub Unit 1.9: NSAIDS	Hrs. theory 4 Hrs. lab
Objectives:	Content:
1. Select and prescribe analgesic and antipyretic rationally. 2. Select and prescribe anti-inflammatory rationally. 3. Identify Side Effect, Contraindication and ADR and its treatment. 4. Prescribe appropriately in other conditions like valvular heart diseases and dysmenorrhoea.	1. Definition, classification with examples 2. Antipyretic, analgesic and anti-inflammatory mechanism 3. Dose & dosage form, Side Effect, Contraindication and therapeutic uses of: aspirin, paracetamol, ibuprofen, naproxen, indomethacin, nimesulide, diclofenac, ketorolac, Aceclofenac
Evaluation methods: written exam, viva	Teaching / Learning Activities & Resources: classroom instruction, handouts

Unit 1: Clinical Pharmacology	**Hrs. theory**	**Hrs. lab**
Sub Unit 1.10: Hormones and related drugs	Hrs. theory 6	Hrs. lab
Objectives:	Content:	
1. Identify Contraindication of ergometrine and oxytocin. 2. Identify the therapeutic use of ergometrine and oxytocin and use appropriately. 3. Identify general principles to follow before and during pharmacotherapy with corticoids. 4. Select ideal conditions for use of oral contraceptive combined preparation and depoprovera injection as per guidelines of family planning. 5. Describe the management of side effects of hormonal contraceptives. 6. Identify therapeutic and preventive use of iodine.	1. Antithyroid drugs: a. Definition with its classification b. Adverse effect, contraindication and indication of: thiourea derivatives, iodide, radioactive iodide. 2. Pharmacological action and effects, adverse effect preparation, contraindication, indication and dose & dosage form of: oxytocin, ergometrine and methylergometrine 3. Mode of Action, preparations, advese effect, contraindication, indication and dosage of conventional insulin and oral antidiabetic drugs 4. Mode of Action, preparation, adverse effect, indication, dose, relative contraindication of corticosteroids. 5. Identify general principles to follow before and during pharmacotherapy with corticoids. 6. Action and effect, preparation, advese effect, Contraindication and therapeutic uses of oral contraceptives and depoprovera	
Evaluation methods: written exam, viva	Teaching / Learning Activities & Resources: classroom instruction, handouts	
Unit 1: Clinical Pharmacology	**Hrs. theory**	**Hrs. lab**
Sub Unit 1.11: CNS acting drugs	Hrs. theory 6	Hrs. lab 2
Objectives:	Content:	
1. Define and explain different types of CNS acting drugs. 2. Explain clinical guidelines for use of hypnotic, antidepressants and narcotics. 3. Identify drug dependence and its management to stop addiction. 4. Describe ways to control the misuse of narcotic drugs.	1. Definition and examples of: sedative, hypnotic, anxiolytic, anticonvulsant, antiepileptic, tranquilizer, antidepressant, antipsychotic, antiparkinsonian, opiod analgesic, drug abuse, drug addiction and habituation. 2. Adverse effect, contraindication and indications for phenobarbitone, diazepam, alprazolam, lorazepam, phenytoin, imipramine, amitryptyline, chlorpromazine, Levodopa, carbidopa Gabapentin, pregabalin 3. Definition of narcotics, its misuse and ways to manage 4. Definition of drug dependence, classifications, aetiology, effects and clinical features on the body of habitué; preventive measures to stop drug addiction.	
Evaluation methods: written exam, viva	Teaching / Learning Activities & Resources: classroom instruction, handouts	
Unit 1: Clinical Pharmacology	**Hrs. theory**	**Hrs. lab**
Sub Unit 1.12: Drugs used in cardiovascular problems	Hrs. theory 4	Hrs. lab
Objectives:	Content:	
1. Identify therapeutic uses, process of digitalization and monitor case using digoxin 2. Describe how to control hypertensive emergency 3. Prescribe aspirin rationally in rheumatic and other valvular heart diseases	1. Definition and introduction of cardiac glycosides and antihypertensive drugs. 2. Mode of Action, adverse effect, contraindication, process of digitalization, special precaution and therapeutic uses of digoxin.	

	3. Mode of Action, adverse effect, Contraindication, dose and therapeutic uses of Amlopdine, Nifedipine Varpamil, enalapril ,losartan, propanolol metoprolol and Atenolol
Evaluation methods: written exam, viva	Teaching / Learning Activities & Resources: classroom instruction, handouts
Unit 1: Clinical Pharmacology	**Hrs. theory Hrs. lab**
Sub Unit 1.13: Diuretics	Hrs. theory 4 Hrs. lab
Objectives:	Content:
1. Identify conditions demanding use of diuretics 2. Describe the rational use of different diuretics	1. Definition and classifications of diuretics. Mode of Action, adverse effect, Contraindication , dose & dosage form and therapeutic uses of: furosemide, hydrochlorothiazide, benzothiazide, spirinolactone, mannitol and acetazolamide, Vasopressin
Evaluation methods: written exam, viva	Teaching / Learning Activities & Resources: classroom instruction, handouts
Unit 2: Pharmacy	**Hrs. theory 14 Hrs. lab 16**
Objectives:	Content:
1. Select and dispense medicine properly 2. Identify expired and damaged drug 3. Apply drug act and regulation during its management 4. Explain properties of rational drug therapy 5. Explain essential medicine according to health delivery system.	1. Definition, parts, importance and abbreviations of prescription. 2. Concepts on good prescription writing. 3. Definition, concepts and importance of Essential Medicine 4. List of Essential Medicine for different health facilities (Health post, PHCC, District Hospital) in Nepal 5. Concept on drug quality and expiry date 6. Safe storage , package and transport of drugs 7. Definition, aims, importance of patient counseling and points to be dealt with during counseling. 8. Definition and step of dispensing. 9. Concept of patient compliance. 10. Drugs and the law a. Objective of Drug Act 2035 b. Concept on banned drugs and controlled drugs c. Concept on Drug and therapeutic Committee and Standard Treatment Guidelines 11. Formulary: meaning, importance with examples. 12. Pharmacopoeia: meaning, importance with examples. 13. Therapy: definition and types a. Principles of drug therapy b. Rational medicine therapy: meaning and importance c. Guidelines for rational drug therapy
Evaluation methods: written exam, viva	Teaching / Learning Activities & Resources: classroom instruction, handouts

Unit 3: Pharmacy Practical	**Hrs. theory** **Hrs. lab 16**
Objectives: 1. Prepare, pack, label, store and dispense solution, lotion, ointment and powders. 2. Prepare performance guide for each preparation.	Content: 1. Pack, label, store and dispense the medicine prepared in laboratory. 2. Prepare gentian violet, Mercurochrome, acriflavin, potassium permanganate, zinc permanganate solution according to accepted formula. 3. Prepare Whitfield and sulfur ointment according to accepted formula. 4. Prepare calamine lotion according to accepted formula. 5. Prepare Lugol's solution and tincture of iodine according to accepted formula. 6. Prepare antacid according to accepted formula. 7. Prepare tooth powder according to accepted formula.
Evaluation methods: written exam, viva	Teaching / Learning Activities & Resources: classroom instruction, handouts

Course: Environmental Health

Hours Theory: **96**
Hours Practical: **32**
Assessment Marks: **100 (Theory 80 + Practical 20)**

Course Description:
This course introduces the student to the specialized skill and knowledge needed to provide environmental health services. The content is taught using classroom instruction and practical experiences in community based programs and primary health care services during field practice at the Health Post and home visits. This course includes information about the relationship between environment and health, water resource management and conservation, waste management, food hygiene, healthful and sanitary housing, air quality management, control of rodents, arthropods and insects, occupational health, climate change.

Course Objectives:
At the end of the course, the learner will able to:

1. Describe the relationship between the environment and health, and show the impact of environment on health.
2. Describe water resources conservation and water quality management.
3. Explain proper waste management in urban and in rural areas.
4. Describe how to maintain food hygiene.
5. Describe standards of safe housing and effects of poor housing.
6. Explain air pollution and its management.
7. Describe methods of controlling rodents, arthropods and insect.
8. Identify occupational diseases and strategies for their prevention.
9. Describe about the climate change.

Recommended Textbooks:
1. Park's Textbook of Preventive and Social Medicine, by K. Park. Published by M/S Banarasidas Bhanot, Jabalpur, India. Current edition.
2. United Nations Environment Program (UNEP) Publications International Center for Integrated Mountain Development,(ICIMOD) Publications

Reference Books:
1. State of Environment, Published by ICIMOD

Course: Environmental Health	**Hrs. theory 96 Hrs. lab 32**
Unit 1: Environmental Health Concepts	**Hrs. theory 10 Hrs. lab**
Sub-unit 1.1: Definition of Terminologies	**Hrs. theory 2 Hrs. lab**
1. Define: Environment Environmental Health Environmental Sanitation Environmental Pollution Carbon Point Climate Change 2. Evaluate and describe the environmental health of your home community. 3. Give examples of environmental sanitation efforts in Nepal. 4. Describe examples of local, national, and global pollution. 5. Tell one thing you do to improve the environmental health of your community.	1. Definition of Environment, Environmental Health, Environmental Sanitation and Environmental Pollution. 2. Examples of environmental health, sanitation and pollution. 3. Individual and collective efforts to promote environmental health.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva	Classroom instruction, teacher led discussion, textbook, hand-outs
Unit 1: Environmental Health Concepts	**Hrs. theory Hrs. lab**
Sub-unit 1.2: Environmental hazards and effects	**Hrs. theory 2 Hrs. lab**
1. Define environmental hazards and give examples. 2. Differentiate between biological and chemical hazards. 3. Describe the long term and short term effects of selected biological and chemical hazards. 4. Analyze different types of environmental hazards and suggest ways to reduce the harmful effects of environmental hazards.	1. Definition of environmental hazards 2. Types and effects of environmental hazards
Evaluation methods:	Teaching / Learning Activities:
Written examination, viva, practical	Classroom instruction, teacher led discussion, textbook, hand-outs, Case Study
Unit 1: Environmental Health Concepts	**Hrs. theory Hrs. lab**
Sub-unit 1.3: Basic environmental threats	**Hrs. theory 3 Hrs. lab**
1. Discuss basic environmental threats. 2. Identify different types of environmental threats. 3. Give examples of the three types of environmental threat. 4. Describe how you would implement measures to reduce one of these threats, as a health post manager. 5. Discuss the effects of the climate change on health.	1. Concept of environmental threats 2. Different types of environmental health threats - Intensification of Agriculture - Industrialization & health - Energy crisis & health 3. Climate change and its causes. 4. Effects of climate change on health.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva	Classroom instruction, teacher led discussion, textbook, hand-outs, Case Study
Unit 1: Environmental Health Concept	**Hrs. theory Hrs. lab**
Sub-unit 1.4: Environmental health issues in global and national context	**Hrs. theory 3 Hrs. lab**
1. Discuss the extent of environmental pollution as a health issue globally. 2. Identify three important environmental health issues in	1. Concept of environmental pollution health issues 2. Environmental pollution issues of global &

the world today. 3. Give examples of each of these issues. 4. Discuss different types of health problems related to each form of pollution.	national importance: - Water, Air, Noise, Soil, Chemicals, Pesticides and Radioactive substances.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva	Classroom instruction, teacher led discussion, textbook, hand-outs, Case Study
Unit 2: Water	**Hrs. theory 14 Hrs. lab**
Sub-unit 2.1: Water	**Hrs. theory 2 Hrs. lab**
1. State the daily requirement, nature and cycle of water 2. Define safe and wholesome water 3. Identify the uses of water	1. Daily requirement, nature and water cycle. 2. Safe and wholesome water. 3. Uses of water - Domestic use - Public purpose - Industrial purpose - Agriculture purpose - Power production - Tourism
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion
Unit 2: Water	**Hrs. theory Hrs. lab**
Sub-unit 2.2: Source of water	**Hrs. theory 2 Hrs. lab**
1. Identify various sources of water 2. Identify features and qualities of different sources of water. 3. Discuss the reasons why some areas of Nepal experience water shortages more often now, than years before. 4. Explain the relationship between deforestation and water shortages. 5. Relate water shortages with quality of life and health. 6. Discuss ways to prevent water shortages.	1. Sources of water - Rain - Surface water - Ground water - Shallow wells - Deep wells - - Springs
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, project report.	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, Problem base learning.
Unit 2: Water	**Hrs. theory Hrs. lab**
Sub-unit 2.3: Water pollution	**Hrs. theory 3 Hrs lab 2**
1. Define water pollution 2. Describe causes of water pollution 3. Explain the primary and secondary preventive measure of water pollution 4. Identify important water borne diseases.	1. Definition of water pollution 2. Cases of water pollution and different types of pollutants. - Physical - Chemical - Biological 3. Primary and secondary preventive measure of water pollution 4. Name types of disease - Water borne - Water based - Water related - Water washed

	- Disease due to chemical 5. Arsenic water pollution in Nepal:- Affected area and problem.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit
Unit 2: Water	**Hrs. theory Hrs. lab**
Sub-unit 2.4: Purification of water	**Hrs. theory 3 Hrs. lab**
1. Describe different methods of water purification at the household level. 2. Describe how to disinfect well water. 3. Mention the methods of water purification on a large scale. 4. Describe the features of a sanitary well	1. Water purification in large scale & small scale 2. Household water purification - Boiling - House hold water purifier:- Filtration, Reverse osmosis, total dissolve substance reduction(TDSR) and UV. - Chemical - Filtration - SODISH 3. Disinfection of well 4. Large scale water purification - Slow sand filtration - Rapid sand filtration 5. Features of sanitary well
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical
Unit 2: Water	**Hrs. theory Hrs. lab**
Sub-unit 2.5: Drinking water programs in Nepal	**Hrs. theory 2 Hrs. lab**
1. Describe the current drinking water systems in Nepal. 2. Identify various drinking water programmes. 3. Explain the coverage and access of safe drinking water in Nepal and give your idea on ways to improve in community.	1. Drinking water program of both rural and urban area with examples. 2. Coverage and access of safe drinking water in Nepal.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion
Unit 2: Water	**Hrs. theory Hrs. lab**
Sub-unit 2.6: Water quality	**Hrs. theory 2 Hrs. lab**
1. State the criteria and standards for water quality according to WHO and the Ministry of Health. - list the standards for good physical quality - list the standards for good chemical quality - list the standards for good biological quality 2. Give examples to illustrate low quality in each classification.	1. Criteria and standards of water quality 2. Water quality standards in regarding - Physical quality - Chemical quality - Biological quality
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical

Unit 3: Waste	**Hrs. theory 20 Hrs. lab**
Sub-unit 3.1: Introduction of waste	**Hrs. theory 2 Hrs. lab**
1. Define waste 2. Illustrate solid waste and identify their sources. 3. Illustrate liquid wastes and identify their sources. 4. Illustrate hazardous wastes and identify their sources.	1. Types of waste with examples -Solid waste -Liquid waste - Hazardous waste
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical
Unit 3: Waste	**Hrs. theory Hrs. lab**
Sub-unit 3.2: Solid waste	**Hrs. theory 2 Hrs. lab**
1. Identify examples of biodegradable and non-biodegradable solid wastes in Nepal. 2. Describe role and responsibility of local governments to reduce the amount of non-biodegradable wastes. 3. Describe national and local efforts to introduce recycling of solid wastes. 4. Discuss ways the health post manager could educate the community and mobilize efforts to reduce solid waste problems.	1. Biodegradable and non-biodegradable solid wastes. 2. Strategies (managerial and technical) to reduce solid waste problems. 3. Role and responsibility of local governments to reduce the amount of non-biodegradable wastes.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical
Unit 3: Waste	**Hrs. theory Hrs. lab**
Sub-unit 3.3: Solid waste Management	**Hrs. theory 3 Hrs. lab**
1. Explain the 3R concept of minimizing waste 2. Describe the disposal of waste in urban areas in Nepal and other countries. 3. Discuss the purposes and effectiveness of Nepal's anti-litter campaign. 4. Describe the disposal of waste in rural areas. 5. Analyze solid waste management in a typical urban household. 6. Describe the process of methane production from animal and human wastes. 7. Identify the advantages and disadvantages of each method of solid waste disposal. 8. Analyze solid waste management systems; under what situation is it best to use each method?	1. Minimizing waste 3R concept: - Reduce waste - Reuse waste - Recycle waste 2. Disposal of waste - Collection - Storage - Transportation - Ultimate disposal - Sanitary land filling - Dumping - Composting - Incineration 3. Disposal of waste in rural area - Burial - Manure pit
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical

Unit 3: Waste	**Hrs. theory** **Hrs. lab**
Sub-unit 3.4: Hazards of solid waste	**Hrs. theory 3 Hrs. lab**
1. Denitrify both health hazards and environmental hazards created by solid waste mismanagement. 2. Give examples when solid waste mismanagement resulted in health problems. 3. Identify an example of solid waste mismanagement in your own community.	1. Health hazards and environmental hazards from unhygienic or careless disposal of solid waste. 2. solid waste mismanagement resulted in health problem 3. solid waste mismanagement in your own community
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical
Unit 3: Waste	**Hrs. theory** **Hrs. lab**
Sub-unit 3.5: Hospital waste management	**Hrs. theory 3 Hrs. lab**
1. Identify different kinds of hospital waste. 2. Describe the communicable disease risks from improper disposal of excreta, vomit, urine, contaminated dressings, blood, used needles and other sharp instruments, broken glass, mercury. 3. Describe the correct management of hospital wastes according to hospital waste management guideline. 4. Analyze the sanitation facilities at your clinical setting with regard to toilets and hand washing. 5. Describe the characteristics of a safe needle disposal system. 6. Describe the management system of liquid and solid wastes at your clinical setting.	1. Hospital waste 2. Hazards of hospital waste 3. Management of hospital waste - separation of waste - using incineration - management of mercury 4. Hospital waste management guideline according to WHO
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical
Unit 3: Waste	**Hrs. theory** **Hrs. lab**
Sub-unit 3.6: Excreta disposal in the community	**Hrs. theory 3 Hrs. lab**
1. List name of fecal borne dieses. 2. Describe sanitary barrier. 3. Describe methods of excreta disposal using a sanitary latrine. 4. Describe the features of a water sealed latrine. 5. Describe use care and maintenance of water sealed latrine. 6. Describe excreta disposal ways in public places and transportation.	1. Fecal borne dieses. 2. sanitary barrier. 3. Methods of excreta disposal - Unsewered areas - Sewered areas 4. Components, structure and function of Water seal latrine (with diagram) 5. Features of water sealed latrine. 6. Use care and maintenance of water sealed latrine. 7. Excreta disposal ways in public places and transportation.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical

Unit 3: Waste	**Hrs. theory Hrs. lab**
Sub-unit 3.7: Liquid waste management	**Hrs. theory 4 Hrs. lab**
1. Identify the components of liquid waste. 2. List sources of liquid waste. 3. Describe the management of liquid waste in household (small scale) & urban areas. 4. Describe the workings of each liquid waste disposal method. 5. Analyze the liquid waste management in household, rural and urban areas. 6. Identify the advantages and disadvantages of different methods of waste management. 7. Discuss the appropriate situation for using each waste management system.	1. Sources and components of liquid waste 2. Liquid waste management: at the household/institution level a. Bio gas plant with structure b. Septic tank. c. Others: • soakage pit • soak well • seepage pit • kitchen garden • dispersion trench d. waste water treatment plant
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical
Unit 4: Food hygiene	**Hrs. theory 18 Hrs. lab**
Sub-unit 4.1: Food hygiene	**Hrs. theory 2 Hrs. lab**
1. Define food hygiene. 2. Identity different food hygiene methods. 3. Discuss rules for food handling which ensure sanitary, hygienic conditions of eating places. 4. Discuss government responsibility and authority for evaluating sanitation of public eating places and food preparation industries.	1. Definition and importance of food hygiene 2. Types of food hygiene - general food hygiene - milk hygiene - meat hygiene 3. Sanitation of eating places.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical
Unit 4: Food hygiene	**Hrs. theory Hrs. lab**
Sub-unit 4.2: Food borne diseases	**Hrs. theory 2 Hrs. lab**
1. Discuss the incidence of food poisoning. 2. Identify common food borne diseases. 3. Identify foods which carry a high risk of containing toxins. 4. Give examples of bacterial, plant, and chemical poisons, which are ingested with food. 5. Differentiate between food borne infections and bacterial food poisoning.	1. Food borne disease: - food intoxication - food infection. 2. Food intoxication (food poisoning) - Bacterial food poisoning - Plant poisoning - Chemical poisoning 3. Food borne infection.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical

Unit 4: Food hygiene	**Hrs. theory Hrs. lab**
Sub-unit 4.3: Sources of food contamination.	**Hrs. theory 2 Hrs. lab**
1. Define food contamination. 2. Identify and describe sources of food contamination. 3. Give an example showing how a cook in a restaurant who has enteric infection can spread the bacteria to the customers. 4. Describe how milk might become bad if not refrigerated properly.	1. Definition of food contamination 2. Sources of food contamination - Human factors - Environmental factors.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical
Unit 4: Food hygiene	**Hrs. theory Hrs. lab**
Sub-unit 4.4: Food Preservation.	**Hrs. theory 3 Hrs. lab**
1. Define food preservation 2. Identify purpose of food preservation. 3. Describe different methods of food preservation. 4. Analyze the food preservation practiced in Nepal. 5. Discuss the role of the health post manager in community education about safe food preservation.	1. Definition of food preservation. 2. Importance of food preservation. 3. Methods of food preservation - Drying - Smoking - Cooking - Pickling - Fermentation - Pasteurization - Parboiling - Refrigeration/freezing - Canning & bottling
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical
Unit 4: Food hygiene	**Hrs. theory Hrs. lab**
Sub-unit 4.5: Food additives, food fortification and food adulteration.	**Hrs. theory 3 Hrs. lab**
1. Define food fortification. 2. Explain importance of food fortification. 3. Explain different food fortification practices in Nepal. 4. Define food additives and describe different types of food additives. 5. State the hazards of using food additives. 6. Define food adulteration and discuss its hazards. 7. Describe different food adulteration practices.	1. Definition of food fortification 2. Importance of food fortification 3. Food fortification practical 4. Definition of food additives 5. Types of food additives 6. Hazards due to food additives 7. Definition of food adulteration 8. Hazards due to food adulteration 9. Food adulteration practiced in Nepal.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical

Unit 4: Food hygiene	**Hrs. theory**	**Hrs. lab**
Sub-unit 4.6: Milk hygiene.	**Hrs. theory 3**	**Hrs. lab**
1. Define milk hygiene. 2. Identify milk borne diseases. 3. Describe the processes/components of milk hygiene.	1. Definition of milk hygiene 2. Milk borne diseases 3. Components of milk hygiene - Healthy animal - Hygienic milking - Preliminary treatment - Pasteurization 4. Methods of Pasteurization - Holder method - High Temperature and Short Time (HTST) method - Ultra High Temperature(UHT) method 5. Handling before consumption.	
Evaluation methods:	Teaching / Learning Activities:	
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical	
Unit 4: Food hygiene	**Hrs. theory**	**Hrs. lab**
Sub-unit 4.7: Meat hygiene.	**Hrs. theory 3**	**Hrs. lab**
1. Explain meat hygiene. 2. Identify meat borne disease 3. Describe the process of meat inspection 4. State the characteristics of sound & unsound meat. 5. Identify the requirements for safe storage of meat. 6. Describe the minimum standards of slaughterhouse. 7. Discuss the meat handling standards. 8. Practice the concepts of health education program in community awareness of safe meat hygiene.	1. Meat hygiene 2. Meat borne disease 3. Meat inspection 4. Characteristics of sound and unsound meat. 5. Storage of meat. 6. Slaughter house and its minimum standards. 7. Concept of health education program in community awareness of safe meat hygiene.	
Evaluation methods:	Teaching / Learning Activities:	
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical	
Unit 5: Housing	**Hrs. theory 8**	**Hrs. lab**
Sub-unit 5.1: Concepts of housing.	**Hrs. theory 2**	**Hrs. lab**
1. Define housing, human settlement, residential environment, slum. 2. Discuss how the three kinds of housing are alike and different. 3. Describe social goals of housing.	1. Definition of housing, human settlement, residential environment and slum. 2. Social goals of housing. 3. Types of housing.	
Evaluation methods:	Teaching / Learning Activities:	
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical	
Unit 5: Housing	**Hrs. theory**	**Hrs. lab**
Sub-unit 5.2: Housing standards	**Hrs. theory 4**	**Hrs. lab**
1. Define the term “standards.” 1. Describe criteria for healthful housing. 2. Explain how housing standards can help improve living conditions.	1. Criteria for Healthful housing. 2. Basic housing standards in terms of site, material, space, light, ventilation, waste disposal etc.	

3. Discuss the health hazards of housing which lacks good ventilation and lighting. 4. State accepted standards with respect to overcrowding. 5. Describe important housing standards used in urban areas. 6. Describe the housing standards used in rural areas, and explain why these are different from urban housing standards. 7. Discuss the construction requirements to protect from earthquake collapse.	3. Types and ways to provide adequate ventilation. 4. Overcrowding. 5. Rural housing standards.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical
Unit 5: Housing	**Hrs. theory Hrs. lab**
Sub-unit 5.3: Housing, Health and National Policy	**Hrs. theory 2 Hrs. lab**
1. Discuss the increased health risks to people who live in sub-standard housing. 2. Describe the negative effects which poor housing has on a person's social and psychological health. 3. Discuss the environmental damage, which occurs when groups of people live in temporary, sub-standard housing. 4. Discuss community solutions to substandard housing problems in Nepal. 5. Describe current National Housing Policy.	1. Effect of poor housing in terms of health & environment. 2. Current National Housing Policy.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, teacher led discussion, textbook, hand-outs, group discussion, field visit, practical
Unit 6: Air	**Hrs. theory 6 Hrs. lab**
Sub-unit 6.1: Air pollution.	**Hrs. theory 3 Hrs. lab**
1. Describe air and its composition. 2. Define air pollution . 3. Describe effects of air pollution on health and society. 4. Describe sources air pollution. 5. Describe indicators of air pollution. 6. Identify persons who are at risk when air pollution is high. 7. Analyze the air pollution in your own community. 8. Describe measures for the prevention and control of air pollution.	1. Air & its composition 2. Definition of air pollution 3. Air pollutants 4. Indicators of air pollution. 5. Effects of air pollution - Health aspect - Social and economic aspects 6. Sources of air pollution - Automobiles - Industries - Domestic sources - Tobacco smoking - Other source 7. Measures of air pollution control and prevention.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, group discussion, field visit, practical

Unit 6: Air	**Hrs. theory** **Hrs. lab**
Sub-unit 6.2: Major issue in air pollution.	**Hrs. theory 3 Hrs. lab**
1. Describe the theory of the greenhouse effect, its causation and effects. 2. Describe the current situation of ozone depletion, its causation and effects (impacts). 3. Explain what is meant by "acid rain." 4. Describe the causes and impact of acid rain. 5. analyze the pros and cons of industrialization, which reduces poverty, and improves social conditions, but at a cost to our environment.	1. Definition, causes and effects of - Greenhouse effects - Ozone depletion - Acid rain. - Global warming and its impact on health and ecology
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, group discussion, field visit, practical
Unit 7: Noise pollution	**Hrs. theory 4 Hrs. lab**
Sub-unit 7.1: Noise and radiation pollution	**Hrs. theory 4 Hrs. lab**
1. Discuss causes, effects, and control of noise pollution. 2. Describe the types, sources and effects of radiation exposure. 3. Discuss ways to reduce exposure to natural radiation and the harmful effects of the sun. 4. Relate exposure to harmful sunrays to cataracts and skin cancer.	1. Definition of noise pollution, 2. effects of chronic exposure to noise, 3. safe noise levels, control of noise. 4. Sources, types, effects, and protection from radiation exposure.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, group discussion, field visit, practical
Unit 8: Rodentology	**Hrs. theory 6 Hrs. lab**
Sub-unit 8.1: Rodents and their effects	**Hrs. theory 3 Hrs. lab**
1. Define rodentology. 2. Identify different types of rats, their characteristics, biotic, and habits. 3. Identify the disease potentials created by the presence of rat populations in a community. 4. Describe economic destruction by rodents.	1. Definition of rodentology 2. Rodent borne diseases: bacterial, viral, rickettsial, parasitic, others. 3. Different types of rats, their characteristics, biotic, and habits, and disease potential due to rats. # Domestic rodents. - Black rat (Rattus rattus) - Sewer rat (R. norvegicus) - Roof rat (R. alexandrinus) - House mouse # Wild rodents. Especially Terai 4. Economic destruction by rodents.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, group discussion, field visit, practical
Unit 8: Rodentology	**Hrs. theory Hrs. lab**
Sub-unit 8.2: Rodents Control Measures.	**Hrs. theory 3 Hrs. lab**
1. Describe rodents control measures. 2. Identify the advantages of each method. 3. Describe the role of the health post manager in	1. Rodents control measures: a. Environmental Sanitation b. Trapping

community efforts to control of rodents.	c. Rodenticides d. Furmigation e. Chemosterilants f. Biological Control 2. Role of health post manager in community efforts to control of rodents.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, group discussion, field visit, practical
Unit 9: Entomology	**Hrs. theory 6 Hrs. lab**
Sub-unit 9.1: Introduction of Entomology.	**Hrs. theory 3 Hrs. lab**
1. Define entomology and medical entomology 2. Identify characters of arthropods of medical importance. 3. Identify arthropod and insect borne diseases. 4. Describe the transmission of each of the common arthropod/insect borne diseases.	1. Definition of entomology and medical entomology. 2. Characters of mosquitoes, sand fly, flies, human lice, fleas, ticks and mites. 3. Arthropod and insect borne diseases. 4. Modes of transmission: - direct contact - mechanical transmission - biological transmission - propagative - cyclo-propagative - cyclo-developmental
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, group discussion, field visit, practical
Unit 9: Entomology	**Hrs. theory Hrs. lab**
Sub-unit 9.2: Arthropod Control.	**Hrs. theory 3 Hrs. lab**
1. Describe principles of arthropod control. 2. Describe the measures to control arthropod and insect diseases. 3. Identify the actions of different types of insecticides and repellents.	1. Principles of arthropod control. 2. Mosquito and sand fly control: - Environmental - Chemical - Biological - Genetic 3. Protection from bite of mosquito and sand fly 4. Control of other medically important arthropods and insects 5. Actions of different types of insecticides and repellents. 6. Insecticide resistance.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, group discussion, field visit, practical
Unit 10: Occupational Health	**Hrs. theory 4 Hrs. lab**
Sub-unit 10.1: Occupational health	**Hrs. theory 4 Hrs. lab**
1. List the common occupational diseases in Nepal. 2. Describe three forms of prevention of occupational diseases and give an example of each. 3. Analyze different occupational hazards which occur in	1. Occupational diseases a. Diseases due to physical agents. b. Diseases due to chemical agents. c. Diseases due to biological agents

your own community. 4. Describe the role of the health post manager in preventing occupational diseases.	d. Occupational dermatitis e. Diseases of psychological origin. 2. Protection of health in occupational settings by: - Medical measures - Engineering measures - Legislation.
Evaluation methods:	Teaching / Learning Activities:
Written examination, Viva, Practical	Classroom instruction, group discussion, field visit
Practical Tasks:	**Allocated Hours: 32 hrs (average 3-4 hrs per task).**
Perform all the task given below (4 hours for each task) 1. Disinfection of well using bleaching powder. 2. Chlorination of water by using chlorine solution and chlorine tablets 3. Demonstration of chlorine test in a sample of water 4. Observe household water purification by candle filter/Ceramic filter 5. Draw the structural diagram of sanitary latrines and biogas plant 6. Field trip for water treatment plant at municipal level 7. Observation of safe insecticide spray for arthropod control 8. Field trip for observation of municipal waste disposal system 9. Dumping, Burial and Burning of solid waste 10. Observation of a slaughter house or a meat shop at local community	

Course: Health Education

Hours Theory: **96**
Hours Practical: **32**
Assessment Marks: **100 (Theory 80 + Practical 40)**

Course Description:
This course teaches the educational aspects of public health management, which is an indispensable component for preventive health, a chief responsibility of the health post manager. The course teaches the concepts and theories of health behaviors and the procedure for planning, implementation and overall management of health education program. The aim of this course is to develop the necessary skills for effective application of health education at the health post level.

Objectives:
Upon completion of the course the learner will be able to:

1. Appreciate the significance of health education and health promotion in preventive, promotive, curative and rehabilitative health care.
2. Identify and apply the theories and principles of health behavioral sciences in the process of health education.
3. Identify, select and utilize suitable health education and health promotion methods and media for successful implementation of health service programs.
4. Plan, implement and evaluate health education and health promotion programs.

Recommended Textbooks:
1. Pradhan, H.B., A textbook of Health Education. Educational Resources for Health, 1995.
2. Park, J.E. and Park, K., Textbook of Social and Preventive Medicine (20 th ed.) 1997.

Course: Health Education	**Hrs. theory 96 Hrs. lab 32**
Unit 1: Introduction to Health Education	**Hrs. theory 8 Hrs. lab**
Sub-unit 1.1: Overview of health education	**Hrs. theory 4 Hrs. lab**
Objectives: Students will be able to	Content:
1. Discuss the aims of health education. 2. Identify factors which influence health, and will therefore influence health education. 3. Give examples of the way each factor can affect health. 4. Discuss the significance of health education in preventive, promotive, curative and rehabilitative health care. 5. Give an example of how health education can help prevent disease. 6. Give an example of how health education helps in curing a disease. 7. Give an example of how health education can prevent disease.	1. Definition of health education. 2. The objectives and importance of health education. 3. Factors influencing health: i) Heredity ii) Environment iii) Life style iv) Socio- economic and cultural condition v) Health services vi) Geographical and environmental factors.
Evaluation methods: written examination, viva, community project performance	Teaching / Learning Activities: classroom instruction, textbook self-study, handouts, group discussion, role play

Unit 1: Introduction to Health Education	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.2: Principles and scope of health education	**Hrs. theory 4**	**Hrs. lab**
Objectives: Students will be able to	Content:	
1. Describe the scope of health education. 2. Explain the principles of health education; give an example for each one. 3. Discuss which heath post staffs are responsible for health education. 4. Discuss how the health assistant can promote health education at the health post.	1. Scope of health education 2. Principles of health education 3. Persons responsible for health education.	
Evaluation methods: written examination, viva, community project performance	Teaching / Learning Activities: classroom instruction, textbook self-study, handouts, group discussion, role play	
Unit 2: Fundamental Factors of Health Education	**Hrs. theory 24**	**Hrs. lab**
Sub-unit 2.1: Motivation	**Hrs. theory 6**	**Hrs. lab**
Objectives: Students will be able to	Content:	
1. Identify the theories and principles of motivation. 2. Apply the theories and principles of motivation in the process of health education. 3. Give an example of intrinsic and extrinsic motivation. 4. Explain how you might encourage a person to quit smoking by applying the principles of motivation. 5. Discuss how to apply a theory of motivation to a health education class	1. Meaning and definition of motivation. 2. Kinds of motivation. a. Intrinsic b. Extrinsic 3. Factors affecting motivation 4. Principles of motivation. a. Rosenstock's principle. b. Kurt Lewin's principle c. Buchman's principle d. Maslow's theory of human motivation 4. Importance of motivation in health education.	
Evaluation methods: written examination, viva, community project performance	Teaching / Learning Activities: classroom instruction, textbook self-study, handouts, group discussion, role play	
Unit 2: Fundamental Factors of Health Education	**Hrs. theory**	**Hrs. lab**
Sub-unit 2.2: Learning	**Hrs. theory 8**	**Hrs. lab**
Objectives: Students will be able to	Content:	
1. Describe the steps of the learning process. 2. Discuss factors which increase or decrease learning. 3. State Ralph Gary's principle of learning with examples. 4. Illustrate the principle "relevancy improves learning" when teaching the mother of a newborn. 5. Describe the different ways of learning. 6. Identify your own ways of learning. 7. List Bloom's Taxonomy of learning domains. 8. Illustrate the cognitive domain of learning and its uses.	1. Meaning and definition of learning. 2. Ralph Gary's principle of learning. 3. Ways of learning and their effectiveness. a. Learning by hearing. b. Learning by seeing. c. Learning by doing d. Learning by repetition e. Learning by imitation. 4. Steps of learning process. 5. Factors affecting learning: a. Biological factors: Age, condition of sensory organs. b. Physical factors c. Socio-cultural factors d. Psychological factors 6. Bloom's Taxonomy of learning domains 7. Cognitive domain of learning and its uses	
Evaluation methods: written examination, viva, community project performance	Teaching / Learning Activities: classroom instruction, textbook self-study, handouts, group discussion, role play	

Unit 2: Fundamental Factors of Health Education	**Hrs. theory**	**Hrs. lab**
Sub-unit 2.3: Change process	**Hrs. theory 5**	**Hrs. lab**
Objectives: Students will be able to	Content:	
1. Explain the theories of change process. 2. Describe how change process is part of health education. 3. Identify one health behavior which is best changed by force. 4. Identify one health behavior which illustrates a change made by identification. 5. Describe an example of a health behavior change by internalization. 6. Explain why people resist changes. 7. Give examples of overcoming resistance to health behavior change.	1. Concept of change and change process. 2. Ways of bringing change: a. Change by force b. Change by identification c. Change by internalization. 3. Resistance to change. 4. Ways of overcoming the resistances.	
Evaluation methods: written examination, viva, community project performance	Teaching / Learning Activities: classroom instruction, textbook self-study, handouts, group discussion, role play	
Unit 2: Fundamental Factors of Health Education	**Hrs. theory**	**Hrs. lab**
Sub-unit 2.4: Communication	**Hrs. theory 5**	**Hrs. lab**
Objectives: Students will be able to	Content:	
1. Define communication. 2. Discuss types of communication. 3. Discuss principles of communication. 4. Discuss the basic elements of communication. 5. Identify barriers of communication and measures for effective communication.	1. Scope of communication. 2. Importance of communication. 3. Principles of communication. 4. Methods of communication. 5. Barriers of communication 6. Measures for effective communication	
Evaluation methods: written examination, viva, community project performance	Teaching / Learning Activities: classroom instruction, textbook self-study, handouts, group discussion, role play	
Unit 3: Methods of Health Education	**Hrs. theory 15**	**Hrs. lab**
Sub-unit 3.1: Individual and Group Methods	**Hrs. theory 9**	**Hrs. lab**
Objectives: Students will be able to	Content:	
1. Describe the advantages and disadvantages of the different types of health education methods. 2. Select the suitable health education method for successful implementation of selected health education programmes. 3. Describe ways to make each method more successful.	1. Meaning and definition of methods of health education. 2. Advantages and disadvantages of each method. 3. Measures to make each method effective. 4. Individual method: - Interview - Counseling 5. Group methods: - Group discussion, Demonstration, Role play, Field trip, brainstorming, symposium, workshop and mini-lecture.	
Evaluation methods: written examination, viva, community project performance	Teaching / Learning Activities: classroom instruction, Group discussion, Demonstration, Role play, Field trip, brainstorming, symposium, workshop and mini-lecture	
Unit 3: Methods of Health Education	**Hrs. theory**	**Hrs. lab**
Sub-unit 3.2: Mass methods	**Hrs. theory 6**	**Hrs. lab**
Objectives:	Content:	
1. Describe the methods for providing education to large groups of people. 2. Identify the advantages and disadvantages of each method. 3. State the criteria for selecting an appropriate method. 4. Give an example of an appropriate way to use each	1. Mass method: a. Lecture b. Exhibition c. Campaign 2. Criteria for the selection of appropriate methods.	

method in a health education effort.	
Evaluation methods: written examination, viva, community project performance	Teaching / Learning Activities: classroom instruction, textbook self-study, handouts, group discussion, role play
Unit 4: Media of Health Education	**Hrs. theory 8 Hrs. lab**
Sub-unit 4.1: Media	**Hrs. theory 8 Hrs. lab**
Objectives:	Content:
1. Describe the advantages and disadvantages of the different types of health education media. 2. Identify criteria used for selecting appropriate media for a method of providing education. 3. Select the appropriate media for health education programmes. 4. Describe how to prepare and use audio and visual aids.	1. Meaning of each media: a. Audio aids: radio cassette player. b. Visual aids: poster, pamphlet, flip chart, model, real objects, bulletin board, wall chart, flannel graph. c. Audio visual aids: TV, multimedia projector 2. Uses of each media. 3. Criteria for the selection of media. 4. Process of preparing each media. 5. Measures to use each media effectively.
Evaluation methods: written examination, viva, community project performance	Teaching / Learning Activities: classroom instruction, textbook self-study, handouts, group discussion, role play
Evaluation methods: written examination, viva, community project performance	Teaching / Learning Activities: classroom instruction, textbook self-study, handouts, group discussion, role play
Unit 5: Planning of Health Education Programmes	**Hrs. theory 12 Hrs. lab**
Sub-unit 5.1:Principles of planning	**Hrs. theory 6 Hrs. lab**
Objectives: Students will be able to	Content:
1. Describe the need for planned health education programmes. 2. Give examples of useful data collection for selecting a needed educational programme. 3. State an example showing how to set priorities of health education needs. 4. Differentiate between general and specific objectives. 5. Describe ways to decide what and how much to teach in an educational programme. 6. Identification of target groups. 7. Selection of appropriate methods and media of health education. 8. Identification of necessary and available resources. 9. Development of details plan of evaluation eg. Time, criteria and methods of evaluation.	1. Definition concept and importance of planning of health education programme. 2. Steps of planning: a. Collection of data and information b. Identifying health and health education needs on priority basis. c. Setting goals and objectives: General objective and Specific objective. d. Identification of target group. e. Selection of appropriate methods and media of health education. f. Identification of necessary and available resources. g. Development of detailed plan of evaluation. E.g. Time evaluation, criteria evaluation and methods evaluation. 3. Development of contents.
Evaluation methods: written examination, viva, community project performance	Teaching / Learning Activities: classroom instruction, textbook self-study, handouts, group discussion, role play
Unit 5: Planning of Health Education Programmes	**Hrs. theory Hrs. lab**
Sub-unit 5.2: Application of planning	**Hrs. theory 6 Hrs. lab**
Objectives: Students will be able to	Content:
1. Describe what is meant by “target group” and give an example. 2. Discuss resources available to the health post worker. 3. Explain the importance of making plans with sufficient detail. 4. Identify criteria and methods for evaluating a programme. 5. Use all the components of planning to plan a health	1. Development of contents to teach 2. Identification of target group. 3. Selection of appropriate methods and media of health education. 4. Identification of necessary and available resources. 5. Development of a detail plan for evaluation. a. time of evaluation. b. criteria of evaluation .

education programme.	c. methods of evaluation.
Evaluation methods: written examination, viva, community project performance	Teaching / Learning Activities: classroom instruction, textbook self-study, handouts, group discussion, role play
Unit 6: Implementation of Health Education Programmes	**Hrs. theory 5 Hrs. lab**
Sub-unit 6.1: Principles of implementation	**Hrs. theory 5 Hrs. lab**
Objectives: Students will be able to	Content:
1. State the strategies of implementation. 2. Give examples of ways to build commitment for a program on vitamin A distribution. 3. Describe ways of training manpower for a program on vitamin A distribution. 4. Identify some local or national resources for a vitamin A distribution program. 5. Tell how a health post incharge might monitor and supervise the activities of workers for the program. 6. Explain why recording and reporting of program results are important.	1. Implementation and its strategies. a) Building commitment b) Training of manpower c) Mobilizing resources d) Organizing community e) Monitoring of the program. f) Supervision of health education workers g) Recording and reporting 2. Training of Human Resources 3. Community Organization 4. Evaluation of Health Education
Evaluation methods: written examination, viva, community project performance	Teaching / Learning Activities: classroom instruction, textbook self-study, handouts, group discussion, role play
Unit 7: Evaluation of Health Education Programmes	**Hrs. theory 14 Hrs. lab**
Sub-unit 7.1: Evaluation	**Hrs. theory 5 Hrs. lab**
Objectives: Students will be able to	Content:
1. Describe the benefits of evaluating a health education program. 2. Explain how the program manager uses each of the stages of evaluation. 3. Give examples of process evaluation and impact evaluation.	1. Definition and meaning of evaluation. 2. Importance of evaluation. 3. Stages of evaluation: a. In the beginning (process evaluation) b. In the middle of the program. c. In the end of the program (impact evaluation).
Evaluation methods: written examination, viva, community project performance	Teaching / Learning Activities: classroom instruction, textbook self-study, handouts, group discussion, role play
Unit 7: Evaluation of Health Education Programmes	**Hrs. theory Hrs. lab**
Sub-unit 7.1: Methods and Technique of Health Education program evaluation	**Hrs. theory 9 Hrs. lab**
Objectives: Students will be able to	Content:
1. Give examples of ways to measure adequacy, relevancy, and efficacy of an educational program. 2. Stages of Evaluation. 3. Describe how a program could be found "inappropriate" by an evaluator. 4. Discuss advantages and disadvantages of each method of evaluation. 5. Apply the process of evaluation to a simulated or real educational program.	1. Types of evaluation Diagnostic evaluation, process evaluation/formative evaluation and summative evaluation. 2. Criteria of evaluation: a. Adequacy b. Relevancy c. Efficacy d. Appropriateness 3. Methods of evaluation: a. Interview b. Observation c. Study of office records and reports d. Meeting and discussion. 4. Process of evaluation - Formulating the objectives of evaluation - Determining proper methods and developing appropriate tools of evaluation. - Collecting the information and data.

	- Analyzing and interpreting. - Providing recommendations and suggestions.
Evaluation methods: written examination, viva, community project performance	Teaching / Learning Activities: classroom instruction, textbook self-study, handouts, group discussion, role play
Unit 8: Health Promotion	**Hrs. theory 4 Hrs. lab**
Sub-unit 8.1: Health Promotion	**Hrs. theory 4 Hrs. lab**
Objectives: Students will be able to	Content:
1. Define the term health promotion. 2. Find out the scope of health promotion. 3. Discuss on International events on Health promotion	1. Definition of health promotion. 2. Scopes of health promotion 3. Principles of Health Promotion 4. International events on Health promotion eg.Ottawa charter
Unit 9: Applied Health Education	**Hrs. theory 4 Hrs. lab**
Objectives: Students will be able to	Content:
1. Prepare simple media for health education a. Poster b. Pamphlet c. Flip chart d. Flannel graph 2. Identify the health education needs in a community.	1. Identify the health education needs existing in the community 2. Identify the resources for community education materials. 3. Describe the procedures for developing simple media.
Evaluation methods: written examination, viva, community project performance	Teaching / Learning Activities: classroom instruction, textbook self-study, handouts, group discussion, role play
Practical Task	**Hrs. theory Hrs. lab 32**
Students will perform at least following task as practical performance of Health Education but subject teacher may add any more task on the list.	Time: Average time is 2-3 hrs per task.
1. Apply the planning, implementation and evaluation process to develop a health education program for a selected health problem. 2. Make a health education plan on any of the health problem in community 3. Collect health education materials from different organizations. 4. Prepare a material for use of multimedia 5. Prepare a Poster 6. Prepare a pamphlet 7. Prepare a flip chart 8. Prepare a leaflet 9. Perform a role play in class room setting 10. Plan and conduct an exhibition at College settings. 11. Perform Group discussion in class room settings 12. Perform Demonstration in class room settings 13. Perform lecture/ instruction in class room settings 14. Perform interview in class room settings 15. Perform counseling in class room settings	

Course: Primary Health Care/Family Health

Hours Theory: **96 (Primary Health care 20 hr, Nutrition 20 hr, Maternal and Child Health 24 hr, Family Planning 20 hr, Demography 12 hr)**
Hours Practical: **32**
Assessment Marks: **100 (Theory 80 + Practical 20)**

Course Description:

This public health course is organized into five units. The first unit provides an overview of primary health care including primary health care services in Nepal. It also teaches the basic concepts of health and health care of populations. The second unit addresses current issues and concepts in nutrition, related to health. In the third unit major health issues of mothers and children are taught, the problems and the solutions. In unit four the principles and applications of family planning services are discussed in full. Unit five presents the foundations of applied population science, including mathematical calculations of data. The practical components are taught in Maternal Child Health and Family Planning clinics and during community field practicum at Primary Health Care Centers and Health Posts.

Course Objectives

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

1. Interpret fundamental concepts of health and health care.
2. Identify principles and strategies of Primary Health Care and PHC services.
3. Describe the roles and responsibilities of the Health Post In-charge in PHC delivery of services.
4. Summarize the components of a nutritious diet and the health consequences of deficiencies.
5. Assess the nutritional status of an individual or a community and solve common nutritional problems of public health importance through Primary Health Care activities.
6. Identify common maternal child related problems found in Nepal and resolve these through implementation of Nepal Government programs at the Health Post level.
7. Counsel clients for family planning services by assessing client needs, assisting with appropriate choice, teaching and providing materials for family planning, and arranging for follow up service.
8. Implement Nepal Government Family Planning Programme from the health post level.
9. Calculate common demographic indicators such as population growth, rate, population pyramid.
10. Illustrate the effects of population overgrowth in its different aspects.
11. Identify measures for controlling population overgrowth and conduct population education at the community level.
12. Evaluation of Health for All by 2000 strategy

Recommended Texts:

1. Park's Textbook of Preventive and Social Medicine, by K. Park. Published by M/S Banarasidas Bhanot, Jabalpur, India. Current edition.
2. Child Nutrition and Health by Ramesh K. Adhikari & Miriam E. Krantz. Published by Health Learning Materials Center, Tribhuvan University, Institute of Medicine, Kathmandu, Nepal. Current edition.

3. Essential Preventive Medicine, by O.P. Ghai, Piyush Gupta. Published by Vikas Publishing House, India. Current edition.

Recommended Reference Texts:

Primary Health Care

1. Primary Health Care: Health For All (series # 1). Published by WHO/UNICEF. 1978
2. Reproductive Health, National and International Perspectives, Dhirga Raj Shrestha
3. National Health Policy (current), Ministry of Health, Nepal.

Nutrition

1. Tapaiko Swastha Tapaiko Hatma, by Aruna Upreti, Ashmita Mahila Prakashass Griha.

Maternal Child Health

1. National Maternity Care Guidelines Nepal, by the Department of Health Services, Nepal, Family Health Division. Published by Nepal Government-Current edition.
2. National Reproductive Health Strategy, by the Department of Health Services, Nepal, Family Health Division. Published by Nepal Government- Current edition.
3. Nepal Safe Motherhood Policy, by Family Health Division, DOHS, MOH, Kathmandu, Nepal. Current edition.
4. Manual on Feeding Infants and Young Children, by M. Cameron & Y. Hofvander. Published by Oxford University Press, Delhi, India.Current edition.

Family Planning

1. National Medical Standards for Contraceptive Servicesby Family Health Division, DOHS, MOH, Kathmandu, Nepal. Current edition.
2. Contraceptive Technology, by Johns Hopkins University Population Program. Published by Johns Hopkins University/WHO. Current edition.
3. Contraceptive Technology, by Robert A. Hatcher et al. Published by Irvington Publisher, Inc, New York.

Population Science

1. An Introduction to the Study of Population, by B.D. Misra. Published by South Asian Publishers, New Delhi, India.
2. Principles of Population Studies, by A.A. Bhende& Y. Kanitkas. Published by Himalaya Publishing House, Mumbai, India.
3. Demography and Population Studies, by O.S. Srivastava. Published by Vikas Publishing House, India.

Course: Primary Health Care/Family Health	**Hrs. theory 20 Hrs. lab**
Unit 1: Primary Health Care (PHC)	**Hrs. theory 20 Hrs. lab**
Sub-unit 1.1: Health care of people: Concept of health	**Hrs. theory 3 Hrs. lab**
Objectives: Students will be able to	Content:
1. Define the concept of health as given by WHO. 2. Explain the differences between physical, mental and social dimensions of health. 3. discuss the characteristic features of physically, mentally and socially healthy person.	1. Concept of health given by WHO. 2. Physical mental and social dimensions of health. 3. Characteristic features of physically, mentally and socially healthy person with examples.
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom instruction, instructor led discussion, textbook self-study, related charts and handouts
Unit 1: Primary Health Care	**Hrs. theory Hrs. lab**
Sub-unit 1.2: Health care of people: determinants of health	**Hrs. theory 3 Hrs. lab**
Objectives: Students will be able to	Content:
1. List determinants of health by category. 2. Explain how a particular determinant is related to a disease /health problem. 3. Describe the scope of health care. 4. State definitions of the levels of health care: 5. Mention the purposes of public health. 6. Discuss the concept of prevention. 7. Categorize levels of prevention	1. Determinants of health. 2. Relationships between disease and the determinants of health with examples 3. Scope of health care: promotive, preventative, curative, rehabilitative. 4. Level of health care: primary, secondary and tertiary 5. Functions and goals of public health. 6. Concept of prevention 7. Levels of prevention with examples
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom instruction, instructor led discussion, textbook self-study, related charts and handouts
Unit 1: Primary Health Care	**Hrs. theory Hrs. lab**
Sub-unit 1.3: Health care of people: indicators of health	**Hrs. theory 2 Hrs. lab**
Objectives: Students will be able to	Content:
1. Discuss the various health indicators and give an example of each. 2. Explain how health indicators are used. 3. Identify the categories of health indicators. 4. Name health indicators related to each category. 5. Compose a health profile of Nepal based on health indicators.	1. Different types of health indicators. 2. Uses of health indicators. 3. Health profile of Nepal.
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom instruction, instructor led discussion, textbook self-study, related charts and handouts
Unit 1: Primary Health Care	**Hrs. theory Hrs. lab**
Sub-Unit 1.4: Primary Health Care and Health for All	**Hrs. theory 5 Hrs. lab**
Objectives: Students will be able to	Content:
1. State in brief the history and background of "Health for All" (HFA). 2. Discuss the vision of "Health for All" given by WHO 3. State in brief the historical background of Primary Health Care (PHC). 4. Describe the relation between HFA and PHC. 5. Define the concept of PHC given by the Alma –Ata declaration.	1. Principles and goals of the “Health for All” program. 2. Health as a right for all citizens. 3. History and elements of Primary Health Care. 4. Relationship between Health for All and Primary Health Care. 5. Scope of PHC services. 6. Roles and responsibility of the patients and clients

6. Mention the elements of PHC. 7. Mention essential health care service. 8. Discuss the PHC related national health programs in Nepal.	7. Components of essential health care service in Nepal. 8. PHC related national health programs in Nepal
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom instruction, instructor led discussion, textbook self-study, related charts and handouts
Unit 1: Primary Health Care	**Hrs. theory Hrs. lab**
Sub-unit 1.5: Community participation in PHC	**Hrs. theory 2 Hrs. lab**
Objectives: Students will be able to	Content:
1. Describe community participation. 2. Explain why community participation in PHC is desirable. 3. Mention the examples of community participation.	1. Concept of community participation. 2. Importance of community participation. 3. components of community participation.
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom instruction, instructor led discussion, textbook self-study, related charts and handouts
Unit 1: Primary Health Care	**Hrs. theory Hrs. lab**
Sub-unit 1.6: Challenges of PHC in Nepal	**Hrs. theory 3 Hrs. lab**
Objectives: Students will be able to	Content:
1. Identify major challenges of PHC in Nepal. 2. Interpret in Nepalese context the following challenges of PHC:	1. Major challenges of PHC in context of Nepal. i) Population overgrowth ii) Malnutrition iii) Poor environmental sanitation iv) Infectious diseases v) Economic status vi) Educational status vii) Gender discrimination viii) Health service delivery ix) Infrastructures x) Prevailing social values, norms and belief.
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom instruction, instructor led discussion, textbook self-study, related charts and handouts
Unit 1: Primary Health Care	**Hrs. theory Hrs. lab**
Sub-unit 1.7: Role of Health Post Incharge in PHC	**Hrs. Theory 2 Hrs. lab**
Objectives: Students will be able to	Content:
1. Discuss the roles of the Health Post Incharge in PHC.	1. Roles of Health Post Incharge in PHC: i) Service provider ii) Manager iii) Teacher iv) Supervisor v) Trainer vi) Motivator vii) Leader viii) Change agent ix) Facilitator x) Counsellor
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom instruction, instructor led discussion, textbook self-study, related charts and handouts

Unit: 2 Nutrition	**Hrs. theory 20 Hrs. lab**
Sub-unit 2.1: Introduction	**Hrs. theory 2 Hrs. lab**
Objectives: Students will be able to	Content:
1. Define nutrients, food, nutrition, electrolytes and dietetics 2. Classify food and nutrients 3. Discuss the importance of study of food and nutrition	1. Definition of nutrients, food, nutrition, electrolytes and dietetics 2. Classification of food and nutrients based on origin, functions, requirement, chemical composition and nutritive values 3. Importance of study of food and nutrition
Unit 2: Nutrition	**Hrs. theory Hrs. lab**
Sub-unit 2.2: Proteins	**Hrs. theory 2 Hrs. lab**
Objectives: Students will be able to	Content:
1. Define proteins 2. Name essential amino acids. 3. Define biologically complete proteins. 4. List examples of food that have biologically complete proteins. 5. List chief food sources of proteins state supplementary action of proteins 6. Cite daily requirements of proteins 7. Name protein deficiency disease. 8. Identify population groups vulnerable to protein deficiency.	1. Define protein 2. Essential amino acids 3. Biologically complete proteins 4. Major food sources of proteins 5. Supplementary action of proteins 6. Daily requirement of protein 7. Protein deficiency.
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts
Unit 2: Nutrition	**Hrs. theory Hrs. lab**
Sub-unit 2.3: Fats & Carbohydrate	**Hrs. theory 2 Hrs. lab**
Objectives:	Content:
1. Name important saturated and unsaturated fatty acids. 2. Compare different sources of fat in terms of availability of unsaturated fatty acids 3. Define essential fatty acids. 4. Tell examples of essential fatty acids. 5. List the functions of fat. 6. Tell examples of visible and invisible fats. 7. State the changes in fatty acids during hydrogenation. 8. Cite the daily requirement for fat. 9. List food sources of fat. 10. List fat deficiency diseases/syndromes. 11. List functions of carbohydrate. 12. Differentiate between simple and complex carbohydrates. 13. Mention the daily requirement of carbohydrate. 14. List names of staple foods rich in carbohydrates. 15. Identity the names of carbohydrate deficiency diseases.	1. Saturated and unsaturated fatty acids. 2. Different sources of fat in terms of availability of unsaturated fatty acids 3. Essential fatty acids 4. Main food sources of unsaturated fatty acids 5. Hydrogenation 6. Functions of fat and carbohydrate 7. Daily requirement of fat and carbohydrate 8. Deficiency disease/syndromes of fat and carbohydrate.
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts

Unit 2: Nutrition	**Hrs. theory**	**Hrs. lab**
Sub-unit 2.4: Vitamins	**Hrs. theory 2**	**Hrs. lab**
Objectives: 1. Describe how vitamins are classified. 2. Describe the functions of each vitamin: A, D, E, K, B1, B2, B3, B6, B12, Folic acid and vitamin C. 3. Cite the daily requirement of above listed vitamins. 4. List the names of deficiency disease syndromes related to the above listed vitamins 5. Mention the name of major food sources of above mentioned vitamins. 6. Identify population groups that are vulnerable for deficiency diseases.	Content: 1. Functions of vitamins. 2. Daily requirement of vitamins. 3. Deficiency disease/syndrome of vitamins. 4. Major food sources of vitamins. 5. Vulnerable populations. 6. Vitamin A distribution programs.	
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts	
Unit 2: Nutrition	**Hrs. theory**	**Hrs. lab**
Sub-unit 2.5: Minerals	**Hrs. theory 2**	**Hrs. lab**
Objectives: 1. List the names of minerals required for good health. 2. State the functions of calcium, iron, iodine and fluorine. 3. List major sources of the minerals listed above. 4. Cite the daily requirement of the minerals listed above. 5. List deficiency diseases/syndromes of the minerals listed above. 6. Identify vulnerable (risk) groups for these deficiencies. 7. Discuss the effectiveness of Nepal's iodine deficiency program.	Content: 1. Minerals required for body. 2. Functions of minerals in human body. 3. Major food sources of minerals. 4. Daily requirement of different minerals. 5. Deficiency disease/syndromes of minerals. 6. Risk populations for mineral deficiency. 7. Iodine deficiency prevention measures in Nepal.	
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts	
Unit 2: Nutrition	**Hrs. theory**	**Hrs. lab**
Sub-unit 2.6: Balanced diet	**Hrs. theory 1**	**Hrs. lab**
Objectives: 1. Discuss the national statistics for nutrition in Nepal. 2. Define balanced diet. 3. Calculate the nutritional value of your daily food intake for one week; compare this to the minimum daily requirement for a nutritious diet. 4. Prepare recipe of balanced diet forchildren and adult from available food stuff. 5. Compare the nutritional values of polished (white) rice to unpolished (brown) rice, with regard to protein, vitamins, minerals, and calories.	Content: 1. Characteristics of a balanced diet 2. Meal plans for a balanced diet by locally available food.	
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts nutrition diary	

Unit 2: Nutrition	**Hrs. theory**	**Hrs. lab**
Sub-unit 2.7: Assessment of nutritional status.	**Hrs. theory 2**	**Hrs. lab 2**
Objectives: 1. List methods for assessment of nutritional status. 2. Assess the clinical signs for the nutritional status. 3. Describe the process of measurement used in anthropometry 4. Interpret the findings of anthropometric measurements. 5. List the names of the biochemical methods used to assess iron, vitamin A, thiamine, vitamin K and protein. 6. Interpret laboratory data to assess above listed nutrients. 7. Discuss about the tool of a dietary survey.	Content: 1. Methods for assessment of nutritional status: a. Clinical examination b. Anthropometry c. Biochemical method d. Dietary survey. 2. Interpretation of anthropometry. 3. Interpretation of biochemical tests used to assess nutritional status.	
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts	
Unit 2: Nutrition	**Hrs. theory**	**Hrs. lab**
Sub-unit 2.8: Under nutrition	**Hrs. theory 2**	**Hrs. lab 2**
Objectives: 1. Define under nutrition and malnutrition. 2. Discuss the relation between poverty and malnutrition. 3. Describe the effects of malnutrition in morbidity and mortality. 4. State the IMNCI criteria for the classification of malnutrition. 6. Discuss myths and misbelieves which interfere with good nutrition, especially for women and girls. 7. Describe ways to control and prevent under nutrition in the community.	Content: 1. Definitions of under nutrition and malnutrition. 2. Vicious cycle of malnutrition. 3. Effects of malnutrition 4. Classification of malnutrition. 5. Control and prevention of malnutrition in community.	
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts	
Unit 2: Nutrition	**Hrs. theory**	**Hrs. lab**
Sub-Unit 2.9: Nutritional problems of public health	**Hrs. theory 2**	**Hrs. lab**
Objectives: 1. Identify fetal abnormalities and maternal risks associated with malnutrition before and during pregnancy. 2. Mention magnitude of problem, distribution and risk groups:	Content: 1. Identify fetal abnormalities and maternal risks associated with malnutrition before and during pregnancy. 2. Magnitude of problem, distribution and risk groups for LBW, PEM, Vitamin A deficiency, nutritional anaemia and iodine deficiency disorders.	
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts	
Unit 2: Nutrition	**Hrs. theory**	**Hrs. lab**
Sub-Unit 2.10: Nutrition Factors in Selected Diseases	**Hrs. theory 1**	**Hrs. lab**
Objectives: 1. Describe the relationship between nutrition/diet and cardiovascular disease, diabetes, obesity and cancer. 2. Tell nutritional measures for prevention and control of these diseases.	Content: 1. Relationship of nutrition with selected diseases. 2. Prevention and control of selected diseases by dietary regulation.	
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts	

Unit 2: Nutrition	**Hrs. theory**	**Hrs. lab**
Sub-Unit 2.11: Nutrition education and food taboos and myths	**Hrs. theory 2**	**Hrs. lab**
Objectives:	Content:	
1. Define nutrition education tell benefits of nutrition education. 2. List the important features of nutrition education. 2 Discuss the nutritional status of Nepalese woman. 3 Identify common food taboos, myths, cultural habits which interfere with proper nutrition for pregnant and lactating women. 3. Identify common food taboos or myths among Nepalese people that interfere or assist in taking a balanced diet.	1. Definition of nutrition education 2. Benefits of nutrition education 3. Contents that should be emphasized in nutrition education 4. Reasons for poor nutritional status of woman in Nepal. 5. Prevailing food taboos and myths in Nepal.	
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts	
Unit 3: Maternal and Child Health	**Hrs. theory 24**	**Hrs. lab**
Sub-unit 3.1: Introduction of Maternal and Child Health	**Hrs. theory 2**	**Hrs. lab**
Objectives:	Content:	
1. Define Maternal and Child Health (MCH) 2. List scope of MCH 3. Explain why mother and baby are treated as one unit. 4. Explain why each of the following provides reasons for advancing maternal health care (MHC) services in Nepal:	1. Rationale of MCH services 2. Factors contributing to the vulnerable health status of women and children a. mortality rates b. percent of population c. physical and physiological stress d. susceptibility of disease e. immunity f. gender discrimination 3. Definition and scope of MCH	
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom instruction, instructor led discussion, textbook self-study, related charts and handouts	
Unit 3: Maternal and Child Health	**Hrs. theory**	**Hrs. lab**
Sub-unit 3.2: Maternal mortality	**Hrs. theory 2**	**Hrs. lab**
Objectives:	Content:	
1 Identify the rate for maternal mortality in Nepal. 4 Identify direct and indirect obstetric causes of maternal death. 5 Describe social causes of maternal death 4. List common medical causes of maternal morbidity.	1. Incidence and trends in maternal mortality. 2. Estimation of maternal mortality rate 3. Causes of maternal mortality and morbidity.	
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom instruction, instructor led discussion, textbook self-study, related charts and handouts	
Unit 3: Maternal and Child Health	**Hrs. theory**	**Hrs. lab**
Sub-unit 3.3: Safe motherhood	**Hrs. theory 2**	**Hrs. lab**
Objectives:	Content:	
1. Discuss the history and purpose of Nepal's Safe Mother hood Program. 2. Identify the scope of maternity care. 3. Describe antenatal care provided at health post and	1. Concept of safe motherhood. 2. Scope of maternity care. 3. Antenatal, delivery, postnatal and newborn care at health post level as recommended by national	

recommended by national maternity care guidelines. 4. Describe delivery care provided at the health post and recommended by national maternity care guidelines. 5. Describe essential newborn care recommended by national maternity care guidelines. 6. Describe postnatal care recommended by National maternity care guidelines.	maternity care guidelines.
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom instruction, instructor led discussion, textbook self-study, related charts and handouts
Unit 3: Maternal and Child Health	**Hrs. theory** **Hrs. lab**
Sub-unit 3.4: Obstetric Referrals	**Hrs. theory 1** **Hrs. lab**
Objectives:	Content:
1. Explain when and how to use obstetric referral guidelines recommended by national maternity care guidelines. 2. Prepare an obstetric referral slip as recommended by national maternity care guideline. 3. Illustrate with examples when referral is required.	1. Obstetric cases requiring referral to higher center. 2. Procedure for use of the obstetric referral slip.
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom instruction, instructor led discussion, textbook self-study, related charts and handouts
Unit 3: Maternal and Child Health	**Hrs. theory** **Hrs. lab**
Sub-unit 3.5: Reproductive Health	**Hrs. theory 2** **Hrs. lab**
Objectives:	Content:
1. Discuss the concept of reproductive health 2. Describe the scope of reproductive health 3. Describe the integrated reproductive health package. 4. Describe the details of intervention and activities of the National Reproductive Health Package at health post and PHCC Level.	1. Concept of reproductive health. 2. Scope of reproductive health. 3. Activities of reproductive health at HP, and PHCC level.
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom instruction, instructor led discussion, textbook self-study, related charts and handouts
Unit 3: Maternal and Child Health	**Hrs. theory** **Hrs. lab**
Sub-unit 3.6: Child mortality and morbidity in Nepal.	**Hrs. theory 2** **Hrs. lab**
Objectives:	Content:
1. Describe the current statistics for infant mortality in Nepal. 2. Under five child mortality in Nepal 3. Mention the causes of neonatal deaths in Nepal. 4. Mention the causes of deaths of post-neonatal deaths in Nepal 5. Mention the causes of deaths of pre-school children 6. Compare the rates of various causes of post neonatal and pre-school child deaths. 7. Discuss the role of the Health Post Incharge in reducing child mortality and morbidity.	1. Child mortality and morbidity rates in Nepal. 2. Causes of child mortality and morbidity in Nepal (neonates, infant and children separately). 3. Interventions available to the Health Post Incharge to promote child health.
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom instruction, instructor led discussion, textbook self-study, related charts and handouts

Unit 3: Maternal and Child Health	**Hrs. theory**	**Hrs. lab**
Sub-unit 3.7: At risk babies	**Hrs. theory 1**	**Hrs. lab**
Objectives: 1. Discuss the criteria for identifying "at risk babies" 2. Illustrate examples of community education efforts to reduce the incidence of newborn mortality.	Content: 1. Criteria for "at risk babies" 2. Community education for referral and prevention of "at risk baby" conditions.	
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom instruction, instructor led discussion, textbook self-study, related charts and handouts, role play	
Unit 3: Maternal and Child Health	**Hrs. theory**	**Hrs. lab**
Sub-unit 3.8: Child growth and development	**Hrs. theory 2**	**Hrs. lab 2**
Objectives: 1. Describe kinds of growth and development: a. physical/motor b. psycho-social c. intellectual 2. Give examples of normal and abnormal growth and development for each of these. 3. Identify assessments of growth by using growth monitoring charts. 4. Interpret growth chart recommended by Child Health Division. 5. List major milestones of development of under-five children. 6. Demonstrate use of the growth chart recommended by Child Health Division. 7. Operate growth monitoring of under-five children.	Content: 1. Concept of growth and development 2. Assessment of growth and development. 3. Interpretation of growth monitoring charts.	
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom instruction, instructor led discussion, textbook self-study, related charts and handouts, visit to child center, orphanage	
Unit 3: Maternal and Child Health	**Hrs. theory**	**Hrs. lab**
Sub-unit 3.9: Infant feeding - Breast feeding	**Hrs. theory 3**	**Hrs. lab**
Objectives: 1. Identify advantages of breast feeding 2. Define exclusive breast feeding. 3. Explain the benefits of colostrum feeding. 4. List common problems related to breast feeding. 5. Identify management of common problems related to breast feeding. 6. Describe frequency and duration of breast feeding. 7. Explain alternatives of breast feeding. 8. Practice giving counseling on breast feeding in a simulated setting.	Content: 1. Advantages of breast feeding. 2. Benefits of colostrum feeding 3. Benefits of exclusive breast feeding. 4. Management of common problems related breast feeding. 5. common problems related to breast feeding: a. Cracked nipple. b. Mastitis and breast engorgement c. Twins d. Cleft-palate baby e. Baby unable to suck f. Sick mother g. Regurgitation 6. Recommendations regarding the frequency and duration of breast feeding. 7. Alternatives of breast feeding a. Animal milk b. Formula milk. 8. Cup feeding (Expressed Breast Milk)	
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom	

	instruction, instructor led discussion, textbook self-study, related charts and handouts, role play
Unit 3: Maternal and Child Health	**Hrs. theory** **Hrs. lab**
Sub-unit 3.10: Weaning	**Hrs. theory 2** **Hrs. lab 2**
Objectives:	Content:
1. Define weaning. 2. Identify times of weaning. 3. Describe the process of weaning. 4. Describe preparation of the weaning recipes. 5. List common problems related to weaning 6. Describe the management of weaning related problems.	1. Concept of weaning. 2. Time and process of weaning 3. Preparation and frequency of feeding weaning recipes from locally available foods: Sarbottampitho, satu, roti, jaulo, khichari and lito 4. Common problems of weaning and their management
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom instruction, instructor led discussion, textbook self-study, related charts and handouts, make weaning recipes
Unit 3: Maternal and Child Health	**Hrs. theory** **Hrs. lab**
Sub-unit 3.11: Immunization	**Hrs. theory 3** **Hrs. lab**
Objectives:	Content:
1. Define immunization. 2. Discuss the significance of immunization in disease prevention. 3. Outline the National Immunization Schedule. 4. State the doses and routes of administration of vaccines recommended by EPI programme. 5. Discuss adverse effects following immunization and the management of these. 6. Outline recommended vaccine storage time and temperature at district and site-center. 7. Describe the principles and purpose of the "Cold Chain" procedure. 8. Describe the procedures for use of the Cold Chain equipment: cold box, vaccine carrier, flask, ice packs, and refrigerator / freezer.	1. Concept of immunization. 2. Effects on morbidity/mortality due to immunization efforts. 3. Immunization schedules. 4. Doses, route of administration and common adverse effects. 5. Consequences of improper vaccine storage. 6. Cold Chain methods.
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom instruction, instructor led discussion, textbook self-study, related charts and handouts, demonstrations
Unit 3: Maternal and Child Health	**Hrs. theory** **Hrs. lab**
Sub-unit 3.12: Preventive and control measures for child morbidity and mortality	**Hrs. theory 2** **Hrs. lab**
Objectives:	Content:
1. Discuss measures to reduce child mortality and morbidity, and explain how each contributes to child health. 2. Discuss the role of the Health Post incharge in preventing childhood mortality and morbidity.	1. Measures for reducing child morbidity and mortality: • ANC • Immunization • Growth monitoring • Breast feeding • Family planning • Female education • Proper management of acute respiratory infections and diarrheal diseases. • Newborn care • Environmental sanitation

	• Health education
Evaluation methods: written examinations, viva	Teaching / Learning Activities / Resources: classroom instruction, instructor led discussion, textbook self-study, related charts and handouts
Unit 4: Family Planning	**Hrs. theory 20 Hrs. lab**
Sub-unit 4.1: Introduction of family planning	**Hrs. theory 2 Hrs. lab**
Objectives:	Content:
1. State the WHO definition of family planning (FP). 2. Describe the scope of family planning services. 3. Discuss the various rights of the client who seeks family planning counseling. 4. Explain individual and community health benefits of family planning. 5. Explain how family planning helps promote child-women's health. 6. Define the term "eligible couples." 7. Estimate the number of eligible couples from the total population of a selected community. 8. Explain how to calculate a contraceptive prevalence rate (CPR). 9. Calculate the current statistics for CPR in Nepal.	1. Definition of family planning 2. Current statistics for CPR in Nepal 3. Scope of family planning services. 4. Client rights regarding family planning services. 5. Relationship between family planning and improved MCH. 6. Estimation of eligible couples and CPR.
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts
Unit 4: Family Planning	**Hrs. theory Hrs. lab**
Sub-unit 4.2: Counseling and informed choice	**Hrs. theory 2 Hrs. lab**
Objectives:	Content:
1. Describe the components of family planning counseling using the GATHER approach. 2. Explain why patient choice is essential for successful follow-through of contraception. 3. Conduct family planning counseling in a real or simulated setting.	1. Principles of informed choice and family planning counseling. 2. Process of family planning counseling which encourages individual informed choice. 3. GATHER counseling method: - G greet, give respect, privacy, full attention - A ask about persons' needs, situation - T teach about appropriate choices - H help persons select and understand the chosen method - E explain how to use and evaluate persons' learning - R refer for follow-up
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts, role play,
Unit 4: Family Planning	**Hrs. theory Hrs. lab**
Sub-unit 4.3: Client assessment	**Hrs. theory 2 Hrs. lab**
Objectives:	Content:
1. Describe what questions to ask when assessing factors which will affect the choice for family planning. 2. State the criteria for determining exclusion of pregnancy. 3. Identify tools that guide the counselor in helping a	1. Concept and objectives of client assessment 2. Factors influencing family planning method selection including "does the person/couple demonstrate…" a. self-discipline to use a method requiring

person/couple choose IUD or Combined Oral Contraceptives (COCs).	pre-coital planning? b. ability to keep self-supplied with contraceptive materials? c. mental ability to understand a multi-step method? d. high risk to mother's health if pregnancy occurs? 3. Criteria for ensuring exclusion of pregnancy. 4. Client screening checklist for hormonal methods and IUCD.
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts
Unit 4: Family Planning	**Hrs. theory** **Hrs. lab**
Sub-unit 4.4: Adolescent Health	**Hrs. theory 2** **Hrs. lab**
Objectives:	Content:
1. Define adolescent and adolescent health 2. Discuss the situation of adolescent in Nepal 3. Explain the importance of adolescent period 4. Discuss the health issues affecting adolescent 5. Define early pregnancy and explain its effect on health 6. Discuss the ways to prevent early marriage 7. Define adolescent friendly health services (AFHS) and mention its characteristics 8. Discuss current Nepal's laws regarding contraception to adolescents	1. Introduction to adolescent and adolescent health 2. Situation of adolescent in Nepal 3. Importance of adolescent period 4. Health issues affecting adolescent 5. Early pregnancy and its effect on health 6. Ways to prevent early marriage 7. adolescent friendly health services and its characteristics 8. Current Nepal's laws regarding contraception to adolescents.
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts
Unit 4: Family Planning	**Hrs. theory** **Hrs. lab**
Sub-unit 4.5: Condom	**Hrs. theory 1** **Hrs. lab**
Objectives:	Content:
1. Explain the chief differences between the commonly used contraceptive methods 2. List examples of spacing and terminal methods. 3. Identify methods classified as clinical and non-clinical methods. 4. List examples of clinical and non-clinical methods. 5. Describe the essential information about condom use:	1. Classifications of contraceptive methods. 2. Different categories of contraceptive methods available in Nepal. 3. Essential information about use of condom: a. Types available in Nepal b. Effectiveness c. Eligibility Client instructions d. Procedure of use/demonstrate how to use the condom e. Common errors of use/reasons for failure f. Non contraceptive benefits g. Common side effects and their management.
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts

Unit 4: Family Planning	**Hrs. theory** **Hrs. lab**
Sub-unit 4.6: Foaming tablets and spermicides	**Hrs. theory 1 Hrs. lab**
Objectives:	Content:
1. List the different varieties of foaming tablets and spermicides available in Nepal. 2. Explain why these methods have limited effectiveness and can cause increased risk of sexually transmitted infections. 3. Describe the effectiveness, eligibility, client instructions, procedure of use, incorrect use/common reasons for failure, common side effects and their management.	1. Foaming tablets and spermicides as methods of contraception: a. limitations of effectiveness b. increased risks c. correct use
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts
Unit 4: Family Planning	**Hrs. theory** **Hrs. lab**
Sub-unit 4.7: Natural methods and coitus interruptus	**Hrs. theory 1 Hrs. lab**
Objectives:	Content:
1. State the aims, effectiveness, limitations and eligibility of natural family planning methods. 2. Describe how to determine the "safe period" for coitus when pregnancy is not wanted. 3. Discuss ways a couple can maintain intimacy when coitus should be avoided. 4. State aim, effectiveness, eligibility and client instructions of coitus interruptus or abstinence. 5. Discuss the reasons coitus interruptus has a lower effectiveness rate than abstinence during fertile periods. 6. Describe the couple who would not be able to use these methods effectively.	1. Natural family planning methods: abstinence during fertile periods and coitus interruptus: effectiveness, advantages and disadvantages.
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts
Unit 4: Family Planning	**Hrs. theory** **Hrs. lab**
Sub-unit 4.8: Hormonal contraceptives	**Hrs. theory 2 Hrs. lab**
Objectives:	Content:
1. Interpret the client screening checklist for hormonal methods recommended by National Reproductive Health Care Guideline. 2. Discuss and demonstrate combined oral contraceptives (COCs), Depo-Provera and Norplant/Implant : simple mode of action, types available in Nepal, effectiveness, procedure of use (timing, how to correct for missed pill), return of fertility, accessing supplies, precautions, contraindications, clinical assessment, common side effects and management of major side effects.	1. Combined oral contraceptives (COCs), Depo-Provera and Norplant/Implant: mechanism of action, management of method, contraindications, precautions. 2. Procedure for Depo injection, Norplant/Implant insertion.
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts, observation of Depo injection, Norplant insertion

Unit 4: Family Planning	**Hrs. theory**	**Hrs. lab**
Sub-unit 4.9: Intrauterine contraceptive device (IUCD)	**Hrs. theory 2**	**Hrs. lab 2**
Objectives: 1. Interpret client screening checklist for IUCD recommended by National Reproductive health Care Guideline 2. Discuss intrauterine contraceptive devices (IUCD): simple mode of action, types available in Nepal, effectiveness, eligibility, procedure of use, return of fertility, precautions, contraindications, clinical assessment, common side effects and their management, major side effects and their management.	Content: 1. Types available in Nepal 2. Mode of action, effectiveness, eligibility, procedure of use, return of fertility, 3. precautions, contraindications, clinical assessment, side effects and their management,	
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts, observation of IUD counseling & insertion.	
Unit 4: Family Planning	**Hrs. theory**	**Hrs. lab**
Sub-unit 4.10: Voluntary surgical contraception (VSC)	**Hrs. theory 1**	**Hrs. lab 2**
Objectives: 1. Describe the procedures of vasectomy, laparoscopy and minilap. 2. State the modes of action, effectiveness, eligibility, precautions and complications of each. 3. Demonstrate counseling of a couple who are undecided about choosing surgical contraception due to fear of impotency.	Content: 1. Vasectomy. 2. Laparoscopy 3. Minilap	
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts role play, observation of sterilization procedures	
Unit 4: Family Planning	**Hrs. theory**	**Hrs. lab**
Sub-unit 4.11: Postpartum contraception	**Hrs. theory 2**	**Hrs. lab**
Objectives: 1. Describe the reliability and duration of postpartum temporary infertility. 2. Identify the situation when a lactating woman should begin using additional protection. 3. Describe the effects of using the COCs on lactation. 4. Discuss the effectiveness and return of fertility with the lactationalamenorrhoea method of contraception.	Content: 1. Postpartum infertility. 2. Contraception for breastfeeding women. 3. Lactationalamenorrhoea method. 4. Effects of COCs on lactation.	
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts	
Unit 4: Family Planning	**Hrs. theory**	**Hrs. lab**
Sub-unit 4.12: Emergency contraception	**Hrs. theory 2**	**Hrs. lab**
Objectives: 1. Describe aims, types, eligibility, clinical procedure, client instructions and common side effects of emergency treatment with COCs and other hormonal methods. 2. Describe when IUD insertion may be used for emergency contraception. 3. Discuss how the current legal rulings regarding termination of unwanted pregnancy apply to the role of Health Post Incharge.	Content: 1. Factors affecting the use of emergency contraception by COCs. 2. Management of emergency contraception. 3. Management of emergency contraception through IUD insertion. 4. Current laws pertaining to termination of unwanted pregnancy. 5. Abortion law	

Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts
Unit 5: Demography	**Hrs. theory 12 Hrs. lab**
Sub-unit 5.1: Introduction of Population Science	**Hrs. theory 2 Hrs. lab**
Objectives:	Content:
1. Define population science/demography. 2. List the names of demographic processes. 3. List common attributes and principal measurements used in the study of population composition. 4. Estimate the sex ratio of this class. 5. Define the term: population pyramid. 6. Interpret selected types of population pyramids. 7. Demonstrate how to construct a population pyramid of Nepal. 8. Prepare population profile of Nepal	1. Definition of population science/demography. 2. Demographic processes. 3. Population composition: i) Principal measurements. ii) Estimation of sex ration iii) Construction and interpretation of different types of population pyramid. 4. Population pyramid of Nepal 5. Population profile of Nepal. (size, distribution, growth and composition)
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts
Unit 5: Demography	**Hrs. theory Hrs. lab**
Sub-unit 5.2: Population distribution, population size	**Hrs. theory 2 Hrs. lab**
Objectives:	Content:
1. List principal measurements used in the study of population distribution. 2. Identify the current population distributions of Nepal. 3. Identify current size and trend of world population growth. 4. Identify size and trend of population growth of Nepal. 5. Compare population growth between developed countries and Nepal.	1. Common measurements of population distribution. 2. Population distribution of Nepal. 3. Word population size and trend of population growth 4. Size and trend of population growth of Nepal. 5. Comparison of population growth between developed countries and Nepal.
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts
Unit 5: Demography	**Hrs. theory Hrs. lab**
Sub-unit 5.3: Population Growth	**Hrs. theory 2 Hrs. lab**
Objectives:	Content:
1. Discuss the concepts of positive and negative population growth. 2. Calculate annual population growth rate by- i) Rate of natural increase method ii) Balancing equation iii) Arithmetical progression or linear growth function, geometrical progression 3. State the formula for assessing population doubling time. 4. Estimate population doubling time of Nepal based on current annual growth rate.	1. Positive and negative aspects of population growth. 2. Calculation of annual population growth rate. 3. Formula for assessing population doubling time.
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts

Unit 5: Demography	**Hrs. theory** **Hrs. lab**
Sub-unit 5.4: Effects of population overgrowth	**Hrs. theory 2 Hrs. lab**
Objectives:	Content:
1. Discuss what characteristics constitute a condition of over population. 2. List different categories of population growth rates (declining to explosive) 3. Describe in brief effects of population overgrowth on economy and per-capita income, health, education and environment.	1. Definitions and concepts of overpopulation 2. Classification of population growth rates. 3. Effects of population overgrowth on economy and per-capita income, health, education and environment..
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts
Unit 5: Demography	**Hrs. theory** **Hrs. lab**
Sub-unit 5.5: Population growth control	**Hrs. theory 2 Hrs. lab**
Objectives:	Content:
1. Describe approaches of population growth control.	1. Principles and methods for the application of measures of population growth control. a. Family planning services b. Late marriage. c. Women's empowerment d. Economic development e. Economic rewards and penalties f. Regulation of migration g. Population education
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts
Unit 5: Demography	**Hrs. theory** **Hrs. lab**
Sub-unit 5.6: Population education in community	**Hrs. theory 2 Hrs. lab**
Objectives:	Content:
1. Describe what is meant by “population education.” 2. Describe the important components of population education for community people. 3. Describe in brief the scope of population education for different social settings.	1. Concepts of population education. 2. Components of population education for community people. 3. Scope of population education for specific social settings.
Evaluation methods: written examination, viva	Teaching Learning Activities / Resources: classroom instruction, teacher led discussion, text book self-study, charts
Practical: At least following 12 task to be performed (average 2-3 hrs/Task)	**Hrs. theory** **Hrs. lab 32**
1. Measure weight, height and mid-upper arm circumference (MUAC) of the children and interpret data 2. Identify high risk mother and fill up ANC card 3. Demonstrate obstetric referral form 4. Demonstrate Immunization card including Road to health card 5. Estimate Body Mass Index (BMI) of adult 6. Prepare recipe of balanced diet from locally available food for different age groups 7. Prepare the profile of staple foods with their nutrient	

value 8. Counsel individual/couple for FP 9. Demonstrate use of contraceptives 10. Prepare health indicators from currently available data 11. Prepare population profile of Nepal 12. Prepare population pyramid and interpret	

Third Year

Course: Medicine II (Pediatrics including Neonatology, Psychiatry and Dermatology)

Hours Theory: **160**
Hours Lab: **80**
Assessment Marks: **150 (Theory 100 + Practical 50)**
Weightages: **(Pediatrics 40% + Psychiatry 30% + Dermatology 30%)**

Part 1: Pediatrics including Neonatology

Hours Theory: **70**
Hours Lab: **35**
Assessment Marks: **40%**

Course Description:

This course provides the knowledge and skills necessary to assess the sick child, Neonatology manage the uncomplicated cases at the health post level, and identify indications for referral to a higher level facility for expert treatment. Emphasis is given to community health education for prevention or early treatment of childhood and neonates conditions and illnesses. This course also teaches the student to apply the principles and guidelines of the Integrated Management of Childhood Illnesses (IMCI) and neonatal health care in package.

Practical involve application of learned theory during experiences in the pediatric hospital ward, out-patient pediatric clinic, maternal-child clinic, and health post attachment.

Course Objectives:
On completion of the course the student will be able to:
1. Assess, diagnose, and treat the common pediatric and neonates disorders and identify indications for referral of complex conditions.
2. Apply the CB-IMCI approach to assess, classify and manage the illness of children ages up to21 days to 15 years.
3. Apply strategies for health promotion and prevention of illness among children.
4. Apply fundamental principles for health promotion of neonates and children within the community.

Recommended reference texts:

1. Baral, Manindra Raj, AZ Of Practical Paediatrics, Second Edition.
2. Adhikari, R., &Krantz, M., Child Nutrition and Health. Health Learning Materials Centre, Kahmandu. Current edition.Ghai, O.P., Essential Pediatrics. Interprint, India. Current edition.
3. Sharma, P.R., A Handbbook of Pediatric Problems. Health Learning Materials Centre, Kahmandu. Current edition.
4. IMCI Participants' Handbook, Facilitator Guide, Chart Booklet, Wall Charts, Video Exercise and other current guidelines from MOH, WHO, UNICEF. 2001.

5. Shrestha, Dhirga Raj, Reproductive Health (National and International Perspective), Latest Edition
6. Park, K., Textbook of Preventive and Social Medicine. M/S Banarasidas Bhanot, Jabalpur, India. Current edition.

Course: Medicine II	**Hrs. theory 160**	**Hrs. lab 80**
Part I: Pediatrics including Neonatology	**Hrs. theory 70**	**Hrs. lab 35**
Unit 1: Pediatrics	**Hrs. theory 60**	**Hrs. lab 25**
Sub-unit 1.1: Introduction to Pediatrics	**Hrs. theory 5**	**Hrs. lab**
Objectives:	Content:	
1. Discuss why the diagnosis and treatment of illness among infants and children differs from medical care of adults. 2. Explain why infants and children are considered a vulnerable population. 3. Describe the important components of a health education programme on the prevention of childhood illnesses through sanitation, nutrition, and immunizations. 4. Describe the characteristics of normal infant and childhood development (physical, cognitive, psycho-social).	1. Principles and theory related to medical care of the pediatric patient 2. Mortality of Neonates, Infant and Child 3. Factors influencing child wellness. 4. Normal growth and development of the infant and child.	
Evaluation methods: written examination, viva, performance observation in practice setting	Teaching / Learning Activities: classroom instruction, charts, observation and supervised practice in the clinical setting	
Unit 1: Pediatrics	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.2: Pediatric examination	**Hrs. theory 7 5**	**Hrs. lab**
Objectives:	Content:	
1. Describe how to modify the general demographic information collected when the patient is a child. 2. Discuss the additional information necessary to understand the history of present illness for a child patient 3. Identify questions to ask the guardian when collecting information about past illnesses. 4. Describe normal and abnormal features observed when performing examination of general appearance. 5. Tell the normal pediatric findings for pulse and respiration rates. 6. Summarize the modifications necessary when performing the systemic examination of a small child. 7. Identify the chief danger signs of the sick child age 2 months to 5 years, based on IMNCI guidelines. 8. Tell what steps are necessary to check for each danger sign. 9. Describe the harmful condition or disease which the young child could be experiencing, for each of the danger signs.	1. Components and modification for the pediatric history taking and physical exam 2. Demographic and social data related to child's family: father's occupation, use of tobacco/alcohol among family members, number and ages of siblings 3. Past illness information collection 4. General appearance: alertness to environmental stimuli, crying, flaccid, hyper-responsive to stimuli, hydration status, 5. Normal ranges for infants and children of vital signs. 6. Strategies to gain trust of the child before examining the body, using the guardian to comfort and reassure the child, avoiding unnecessary exposure of the body, performing simple inspections before palpating, 7. IMNCI guidelines: a. general danger signs b. assessment of dangerous symptoms c. interpretation of dangerous symptoms 8. IMNCI treatment sequence for children 2 months-	

10. State the IMNCI sequence of treatment.	5 years: a. assess and classify disorder b. identify treatment c. treat the child d. counsel the mother e. provide management of sick infant 1 week-2 months f. follow up
Evaluation methods: written examination, viva, performance observation in practice setting	Teaching / Learning Activities: classroom instruction, charts, observation and supervised practice in the clinical setting
Unit 1: Pediatrics	**Hrs. theory** **Hrs. lab**
Sub-unit 1.3: Neonatal conditions	**Hrs. theory 4** **Hrs. lab 2**
Objectives:	Content:
1. Define the terms: still birth, newborn period, neonate, term baby, preterm baby, post-term baby, low birth weight (LBW) baby, perinatal period, post neonatal period. 2. Describe in brief the evaluation of a baby immediately after birth. 3. Describe the features of the normal full term (newborn infant) neonates. 4. Describe the common minor clinical problems observed in the normal (newborn infant) neonates. 5. Kangaroo Mother Care (KMC) 6. Discuss the signs, treatment and prevention of hypothermia in the newborn. 7. List the common problems of LBW neonates. 8. Describe how to teach mothers to feed their LBW neonates and new born babies.	1. Terminology related to newborns 2. Evaluation of the newborn 3. Features of the normal and low birth weight (LBW) babies 4. Minor clinical problems with newborns 5. Problems and risks associated with LBW neonates 6. Prevention and management of hypothermia 7. Kangaroo Mother Care (KMC)
Evaluation methods: written examination, viva, performance observation in practice setting	Teaching / Learning Activities: classroom instruction, charts, observation and supervised practice in the clinical setting
Unit 1: Pediatrics	**Hrs. theory** **Hrs. lab**
Sub-unit 1.4: Neonatal disorders	**Hrs. theory 4** **Hrs. lab 2**
1. Identify the following theory about neonatal sepsis: a. causes / etiology b. common pathogens c. clinical features d. danger signs e. management at the health post level f. indications for referral 2. Explain why the feverish neonate should be covered only lightly with clothing, with head uncovered. 3. Identify the following theory about umbilical infection: a. causes / etiology b. common pathogens c. clinical features d. danger signs e. management at the health post level f. indications for referral	1. Definition, etiology, clinical features, danger signs, and management of neonatal sepsis. 2. Etiology, clinical features, and management of umbilical infection. 3. Causes, clinical features and prevention of staphylococcal skin infection. 4. Clinical features and prevention of neonatal tetanus. 5. Etiology, clinical features, and management of ophthalmianeonatorum. 6. Causes, incidence, management and prognosis of physiological jaundice. 7. Common causes and management of neonatal seizures. 8. Assessment for congenital defects; conditions to be referred immediately.

4. Identify the following theory about staphylococcal skin infection: a. causes / etiology b. common pathogens c. clinical features d. danger signs e. management at the health post level f. indications for referral 5. Identify the following theory about neonatal tetanus: a. causes / etiology b. common pathogens c. clinical features d. danger signs e. management at the health post level f. indications for referral 6. Discuss the etiology, clinical features, health post level treatment and prevention of ophthalmianeonatorum. 7. Discuss the cause and management of physiological jaundice of the newborn. 8. Discuss the causes, clinical features and health post level management of neonatal seizure; tell indications for referral. 9. Identify the common congenital defects in newborns, their clinical features, and indications for immediate referral.	
Evaluation methods: written examination, viva, performance observation in practice setting	Teaching / Learning Activities: classroom instruction, charts, observation and supervised practice in the clinical setting
Unit 1: Pediatrics	**Hrs. theory** **Hrs. lab**
Sub-unit 1.5: Gastrointestinal disorders of children	**Hrs. theory 3** **Hrs. lab 1**
1. Describe the etiology, clinical features and treatment of oral thrush. 2. Describe the signs, causes, management, and advice for mothers of gastro-oesophageal reflux. 3. List the common causes and management of vomiting. 4. Define the terms: diarrhoea, persistantdiarrhoea, dysentery. 5. Tell the magnitude of morbidity and mortality of children from diarrhoeal diseases in Nepal. 6. Identify the agent factors, reservoir of infection, host factors, environmental factors and mode of transmission of diarrhoeal diseases. 7. Describe how to assess a child with diarrhoea based on the guidelines of Integrated Management of Childhood Illness (IMCI). 8. Describe the classification of diarrhoeal diseases according to the IMNCI guideline. 9. Discuss the management of a child with diarrhoeal disease as recommended by IMNCI. 10. Describe the counseling given to the mother about diarrhoeal disorders.	1. Etiology, clinical features and treatment of oral thrush. 2. Signs, causes, management, and advice for mothers of gastro-oesophageal reflux. 3. Causes and management of vomiting. 4. Definitions, incidence, etiologies, management of diarrhoeal diseases according to IMNCI guideines. 5. Prevention measures

11. Discuss the prevention and control of diarrhoeal diseases.	
Evaluation methods: written examination, viva, performance observation in practice setting	Teaching / Learning Activities: classroom instruction, charts, observation and supervised practice in the clinical setting
Unit 1: Pediatrics	**Hrs. theory** **Hrs. lab**
Sub-unit 1.6: Respiratory disorders	**Hrs. theory 3 Hrs. lab 1**
Objectives:	Content:
1. Tell the normal respiratory rate of children age 2-12 months and 1-5 years. 2. Define the terms stridor, wheeze, and chest indrawing. 3. List common causes of wheezing and stridor in children. 4. Define the terms Acute Respiratory Infection (ARI) and pneumonia. 5. Describe how to differentiate between noninfectious chronic respiratory conditions and ARI. 6. Discuss the incidence and causes of ARI in children. 7. Describe the classifications of ARI as defined in the Integrated Management of Childhood Illness (IMCI) guidelines. 8. Identify the symptoms and recommended treatment of each category of pneumonia according to the IMCI guidelines. 9. Describe the counseling for the mother about childhood pneumonia. 10. List the complications of pneumonia in children. 11. Describe the etiology, clinical features, differential diagnosis and health post level treatment of chronic recurrent cervical adenitis.	1. Assessment of signs and symptoms of Acute Respiratory Illness (ARI). 2. Differentiation of ARI from chronic lung conditions. 3. Characteristics and management of cevical adenitis. 4. Incidence, causes, classifications, clinical features, management and prevention of ARI, according to IMCI guidelines.
Evaluation methods: written examination, viva, performance observation in practice setting	Teaching / Learning Activities: classroom instruction, charts, observation and supervised practice in the clinical setting
Unit 1: Pediatrics	**Hrs. theory** **Hrs. lab**
Sub-unit 1.7: Infectious diseases - fever	**Hrs. theory 3 Hrs. lab 2**
1. List the common causes of fever in children. 2. Explain how to assess a child with fever. 3. Meningitis symptoms/causes//investigations and management. 4. Describe the classifications of fever based on criteria of IMCI guidelines. 5. Identify the management of each category of fever associated diseases as recommended by the IMCI guidelines. 6. Describe the components of counseling for mothers of children with fever, including follow-up visit.	1. Infectious and non-infectious causes for fever in children 2. Assessment using IMCI guidelines; includes looking, feeling, history taking. 3. IMCI classifications of fever 4. Management of fever as recommended by IMCI guidelines 5. Advice and counseling for children with fever.
Evaluation methods: written examination, viva, performance observation in practice setting	Teaching / Learning Activities: classroom instruction, charts, observation and supervised practice in the clinical setting

Unit 1: Pediatrics	**Hrs. theory** **Hrs. lab**
Sub-unit 1.8: Infectious diseases – Measles, chickenpox and rubella	**Hrs. theory 3 Hrs. lab 2**
1. State in brief the epidemiological determinants of measles. 2. Describe the clinical features of measles 5. Identify the classification of measles as per the IMCI guideline. 6. Describe the management of each type of measles. 7. List the potential complications of measles. 8. State in brief the epidemiological determinants of chickenpox. 9. Describe the clinical features, differential diagnosis, complications and health post level management of chickenpox. 10. State in brief the epidemiological determinants of rubella. 11. Describe the clinical features, differential diagnosis, complications and health post level management of rubella. 12. Discuss the risks to a developing fetus, if it is exposed to rubella infection. 13. Describe measures for prevention of measles, chicken pox and rubella in the community.	1. Epidemiological determinants of measles. a. agent factors b. host factors c. environmental factors d. mode of transmission e. incubation period 2. Clinical features, classification, management, complications of measles. 3. Epidemiological determinants of chickenpox and rubella 4. Clinical features, differential diagnosis, complications and management of chickenpox and rubella. 5. Prevention and health teaching about measles, chickenpox and rubella.
Evaluation methods: written examination, viva, performance observation in practice setting	Teaching / Learning Activities: classroom instruction, charts, observation and supervised practice in the clinical setting
Unit 1: Pediatrics	**Hrs. theory** **Hrs. lab**
Sub-unit 1.9: Infectious diseases – Mumps, diphtheria, whooping cough, rheumatic fever, poliomyelitis	**Hrs. theory 3 Hrs. lab 2**
1. State in brief the incidence and epidemiological determinants of: a. mumps b. diphtheria c. whooping cough d. rheumatic fever e. poliomyelitis. 2. Identify the clinical features and the investigations necessary for a differential diagnosis of each of these. 3. Describe the recommended treatment at the health post level for each disease. 4. Discuss the complications and strategies for prevention of mumps, diphtheria, whooping cough, rheumatic fever, poliomyelitis .	1. Incidence, epidemiology, diagnosis, management and prevention of mumps, diphtheria, whooping cough, rheumatic fever, poliomyelitis.
Evaluation methods: written examination, viva, performance observation in practice setting	Teaching / Learning Activities: classroom instruction, charts, observation and supervised practice in the clinical setting
Unit 1: Pediatrics	**Hrs. theory** **Hrs. lab**
Sub-unit 1.10: Skin disorders	**Hrs. theory 2 Hrs. lab 1**
1. Describe the etiologies, clinical features, and management of diaper rashes (napkin rash). 2. Describe the etiology, clinical features and	1. Causes, diagnosis and management of common skin disorders of children. 2. Prevention and management of child skin

management of impetigo, eczema, scabies, lice, fungal dermatitis among children. 3. Discuss health education and family counseling to prevent the incidence and spread of contagious skin disorders.	disorders.
Evaluation methods: written examination, viva, performance observation in practice setting	Teaching / Learning Activities: classroom instruction, charts, observation and supervised practice in the clinical setting
Unit 1: Pediatrics	**Hrs. theory** **Hrs. lab**
Sub-unit 1.11: Helminthes infestations	**Hrs. theory 2** **Hrs. lab 1**
1. Describe the incidence and etiologies of commonly occurring helminthes infestations. 2. Identify the clinical features and the investigations necessary for a differential diagnosis of each of these. 3. Describe the recommended treatment at the health post level for each disease. 4. Identify the complications of untreated infestations. 5. Discuss health education programs to reduce the incidence of helminthes among children.	1. Incidence, etiologies, diagnosis, treatment, complications and prevention of common helminthes infestations: f. pinworm g. hookworm h. roundworm i. strongyloides j. tapeworm k. whipworm
Evaluation methods: written examination, viva, performance observation in practice setting	Teaching / Learning Activities: classroom instruction, charts, observation and supervised practice in the clinical setting
Unit 1: Pediatrics	**Hrs. theory** **Hrs. lab**
Sub-unit 1.12: Nutritional disorders	**Hrs. theory 5** **Hrs. lab 1**
Objectives:	Content:
1. Discuss the evidence and extent of under-nutrition in Nepali children. 2. Identify the common nutritional disorders of Nepali children. 3. Discuss the chief causes and malnutrition and anemia among Nepali children. 4. Identify the complications and long term effects of chronic malnutrition and anaemia. 5. Describe how to assess a child for malnutrition and anaemia, based on criteria of the IMCI guidelines. 6. Classify the nutritional status of a child (a case example or a child in the practice setting) as per IMCI guidelines. 7. Describe the IMCI recommended management of each category of nutritional deficiency. 8. Describe in brief the clinical features and treatment of deficiencies in: vitamin A, thiamin (vitamin B-1), vitamin B-2, vitamin B-6, vitamin B-12, vitamin D, vitamin C and iodine. 9. Identify the effects of chronic deficiencies of these vitamins. 10. Discuss the principles and content of counseling for a child's guardian, related to feeding and follow-up.	1. Incidence, causes and evidence of malnutrition among Nepali children. 2. Assessment of nutritional status by IMCI guidelines. 3. Management of anaemia, protein and vitamin deficiencies according to IMCI guidelines. 4. Vitamin A treatment rational for: a. xerophthalmia/night blindness b. persistent diarrhea c. measles d. malnutrition 5. Community and individual education strategies, public solutions to malnutrition.
Evaluation methods: written examination, viva, performance observation in practice setting	Teaching / Learning Activities: classroom instruction, charts, observation and supervised practice in the clinical setting

Unit 1: Pediatrics	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.13: Conditions of the ear	**Hrs. theory 4**	**Hrs. lab 1**
1. Describe how to examine a child to assess the ears, according to IMCI guidelines. 2. Discuss the incidence and causes of deafness. 3. Describe the incidence and etiologies of middle ear infections among Nepali children. 4. Identify common infections of the external ear. 5. Describe the treatment of each category of ear problem based on criteria of IMCI guidelines. 6. Discuss health education measures to reduce the incidence of deafness and ear infections among children.	1. Incidence, causes, diagnosis, treatment and prevention of common conditions of the inner and external ear. 2. IMCI guidelines for assessment and management of ear problems.	
Evaluation methods: written examination, viva, performance observation in practice setting	Teaching / Learning Activities: classroom instruction, charts, observation and supervised practice in the clinical setting	
Unit 1: Pediatrics	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.14: Central nervous system disorders	**Hrs. theory 2**	**Hrs. lab 1**
1. Define the terms: unconsciousness, coma and convulsions. 2. Describe the procedure for assessing the condition of unconsciousness. 3. Identify the most common causes for unconsciousness or coma in the child. 4. Describe the emergency management of a child with unconsciousness or coma, before referring to a higher level facility. 5. Describe the common causes and most prevalent types of convulsions among children. 6. Describe the management and referral of a child who has repeated episodes of convulsions. 7. Discuss the clinical features, incidence and etiologies of mental retardation. 8. Describe the management and family counseling for mental retardation. 9. Identify health education measures to reduce the incidence and mismanagement of mental retardation. 10. Describe the incidence, clinical features, and etiologies of common childhood mental disorders: attention deficit/hyperactivity, depression, psychosis. 11. Discuss how to manage and counsel families for these disorders.	1. Incidence, assessment, and management of convulsions, coma or unconsciousness. 2. Incidence, assessment, and management of mental retardation. 3. Incidence, assessment and management of mental disorders of children.	
Evaluation methods: written examination, viva, performance observation in practice setting	Teaching / Learning Activities: classroom instruction, charts, observation and supervised practice in the clinical setting	
Unit 1: Pediatrics	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.15: Accidental injuries, poisoning, choking, & abuse	**Hrs. theory 2**	**Hrs. lab 1**
1. Identify the most prevalent types of accidental injuries to children. 2. Discuss health education programs to reduce the incidence of accidental injuries, from falls, burns,	1. Incidence, contributing factors, and prevention of accidental harm to children. 2. Incidence and clinical features of neglect or abuse of a child	

vehicular accidents, exposure, animal bites, choking and poisoning. 3. Identify clinical features which indicate a child may be experiencing neglect or abuse (physical, sexual or psychological) at home or school. 4. Discuss the incidence, causes and health outcomes of child labor and child trafficking. 5. Discuss the role of the Health Post Manager in prevention of socio-economic abuse of children.	3. Laws, incidence, and outcomes of child labor.
Evaluation methods: written examination, viva, performance observation in practice setting	Teaching / Learning Activities: classroom instruction, charts, observation and supervised practice in the clinical setting
Unit 1: Pediatrics	**Hrs. theory** **Hrs. lab**
Sub-unit 1.16: Integrated Management of Childhood Illness (IMCI)	**Hrs. theory 8 Hrs. lab 2**
1. Describe the purpose and process of Integrated Management of Childhood Illness (IMCI). 2. Discuss how to use the IMCI guidelines to assess, classify and manage the case of a child who presents with danger signs. 3. Describe how to use the IMCI guidelines to assess and classify illness, treat and counsel for the child age 2 months to 5 years presenting with: a. general danger signs b. cough or difficult breathing c. diarrhoea d. fever e. ear problems f. malnutrition and anaemia 4. 4. Describe how to use the IMCI guidelines to assess and classify, treat and counsel for the child age 1 week to 2 months presenting with: a. possible bacterial infection b. diarrhea c. feeding problems or low weight	1. Principles produce & philosophy of integrated management of childhood illness. 2. General danger signs and other symptoms. 3. Assessment, classification and management of childhood illness as per IMCI guidelines.
Evaluation methods: written examination, viva, performance observation in practice setting	Teaching / Learning Activities: classroom instruction, charts, solve related problems in IMCI manual, observation and supervised practice in the clinical setting
Unit 2: Pediatrics/Neonatology	**Hrs. theory 10 Hrs. lab 10**
Sub-unit 2.1: Neonatology	**Hrs. theory 1 Hrs. lab**
1. Introduction to Neonatal Health	1. Overview of Neonatal Health at National, global and regional level and its other related national programs 2. Neonatal and Safe motherhood Health strategy and policy, 3. Roles of health care providers in caring neonates at different levels.
Unit 2: Pediatrics/Neonatology	**Hrs. theory Hrs. lab**
Sub-unit 2.2: Infection Prevention	**Hrs. theory 1 Hrs. lab**
1. Infection Prevention	1. Infection prevention process including Universal precaution. 2. Hand washing

Unit 2: Pediatrics/Neonatology	**Hrs. theory Hrs. lab**
Sub-unit 2.3: Neonatology	**Hrs. theory 2 Hrs. lab**
1. Essential Care for Every Newborn (within 7 hours)	1. Essential care of newborn at birth. 2. Introduction to postnatal care assessment/Examination of newborn within 24 hours and before discharge from the health institution. 3. Assessment /examination of new born at follow up visit. (3 days to 7 days), 4. Teach and counsel the mother and family on Newborn.
Unit 2: Pediatrics/Neonatology	**Hrs. theory Hrs. lab**
Sub-unit 2.4: Neonatology	**Hrs. theory 2 Hrs. lab**
1. Breastfeeding (within 7 hours)	1. Physiology of breastfeeding 2. Successful breastfeeding including exclusive breast feeding 3. Breastfeeding problems and its management including exclusive breast feeding 4. The HIV Positive Mother and Breastfeeding 5. Breastfeeding problems and its management including expressing breast milk, cup/ Palladai feeding.
Unit 2: Pediatrics/Neonatology	**Hrs. theory Hrs. lab**
Sub-unit 2.5: Neonatology	**Hrs. theory 1 Hrs. lab**
1. Birth Asphyxia and its management (within 8 hours)	1. Introduction to Fetal Hypoxia and Asphyxia 2. Preparation for and steps of Newborn Resuscitation. 3. Newborn Resuscitation using different methods. 4. Care after Resuscitation.
Unit 2: Pediatrics/Neonatology	**Hrs. theory Hrs. lab**
Sub-unit 2.6: Neonatology	**Hrs. theory 2 Hrs. lab**
1. Special care of Newborn	1. Danger signs and referral 2. Local infection. (Cord, eye, skin and oral thrush) 3. Possible severe bacterial infection and its management. (PBSI), 4. Prevention of hypothermia 5. Identification of Low birth weight Neonate. 6. Management of low birth weight using kangaroo Mother care. 7. Jaundice. 8. Breast feeding in THE HIV POSITIVE MOTHER
Unit 2: Pediatrics/Neonatology	**Hrs. theory Hrs. lab**
Sub-unit 2.7: Neonatology	**Hrs. theory 1 Hrs. lab**
1. Approaches to clinical skills competency based and humanistic approached to skill proficiency	1. Introduction to competency based and humanistic approaches.

Part II: Psychiatry
Hours theory: 40
Hours Practical: 20
Assessment Marks Weightages: 30%

Course Description:
This course prepares the student to understand the multifactorial etiologies of mental health conditions (neurobiochemical, environmental stresses, learned psycho-social behaviors and beliefs) and to prescribe, counsel or refer cases as necessary. Special attention is given to the assessment, management and prevention of psychosis, anxiety and depression, including care of the person who is suicidal, postpartum, violent, or victimized. Topics also included: childhood conditions, mental retardation, epilepsy, alcohol and drug abuse, and rehabilitation of the chronically mentally disabled.

Course Objectives:
On completion of the course the student will be able to:
1. Describe the current statistics and resources for mental health in Nepal.
2. Describe the multifactor causes of mental health conditions.
3. Identify and manage common mental health conditions of adults and children.
4. Maintain the safety of patients and others when persons become actively suicidal or violent towards others.
5. Identify, manage and counsel the families in cases of epilepsy, mental retardation, alcohol or drug abuse.
6. Identify indications for referral of severe cases and cases resistant to treatment.

Recommended Text:
2. Mental Health for the Primary Health Care Worker, distributed by Health Learning Materials Center.

Reference Texts:

1. Joshi, M.P. and Adhikari, R.K., Manual of Drugs and Therapeutics. Distributed by Health Learning Materials Center, Kathmandu, Nepal. 1996.
2. Tierney, L.M. et al., Current Medical Diagnosis. AppletonLange, Stamford. Current edition.
3. American Psychiatric Association: Diagnositic and Statistical Manual of Mental Disorders, 4th ed. Washingtonn, D.C. 1994.
4. Fortinash, K.M. &HolodayWorret, P.A., Psychiatric Mental Health Nursing, 2nd ed. Moseby, St. Louis. 2000.

Course : Medicine II	**Hrs. theory**	**Hrs. lab**
Part II: Psychiatry	**Hrs. theory 40**	**Hrs. lab 20**
Unit 1: Psychiatry	**Hrs. theory 40**	**Hrs. lab 20**
Sub-unit 1.1: Introduction	**Hrs. theory 2**	**Hrs. lab**
Objectives:		
1. Describe the criteria for diagnosis of mental illness. 2. Discuss ways to classify mental illness. 3. Describe the ways mental illness may affect mental or emotional functions, behavior, and physical health. 4. Discuss the theory of multiple causality of mental disorders (part neurobiological, part experienced stress). 5. Describe stressful psycho-social conditions which contribute to mental illness. 6. Discuss mental wellness-illness as a continuum; describe an occasion when you suffered from some feelings of anxiety or despair.	1. Criteria for diagnosis of mental illness: emotional, behavioral, physical health maintenance. 2. Classification of disorders: psychosis & neurosis; International Diagnostic Criteria (ICD) using the Diagnostic & Statistical Manual of Mental Disorders. 3. Multi factorial causation theories of mental illness. 4. Psychological function and responses to stress. 5. Stressful psycho-social conditions which contribute to mental illness. 6. Mental wellness-illness as a continuum.	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities / Resources: classroom instruction, text book, self-study, videos, role play.	
Unit 1: Psychiatry	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.2: Mental Health Services in Nepal	**Hrs. theory 2**	**Hrs. lab 2**
Objectives:		
1. Discuss the incidence of mental illness in Nepal. 2. Describe the resources for diagnosis and treatment of psychiatric disorders in Nepal. 3. Discuss how mental health services (i.e., diagnosis, counseling, medicine prescriptions) are provided at the health post level as part of integrated health care service. 4. State the aims of mental health treatment. 5. Explain why people with mental illness are often held in jails, rather than in a treatment facility. 6. Discuss the role of the traditional healer in diagnosis and treatment of mental illness, both the positive and negative aspects. 7. Describe how the health post manager could enlist the support of traditional healers by giving workshops to these persons.	1. Incidence of mental illness, reported and unreported. 2. Services for mental illness: district level resources, zonal and national; United Missions Nepal Mental Health Program. 3. Role of the Health Post Incharge in diagnosis and management. 4. Aims of mental health services: to restore a feeling of calm and ability to reason, and to resume a purposeful and meaningful role in the community. 5. Effects of ignorance, fear, misunderstanding and apathy upon the treatment of this vulnerable population. 6. Positive and negative roles of traditional healers in diagnosis and treatment of mental illness. 7. Utilization of traditional healers as part of the health care team.	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities / Resources: classroom instruction, text book self study, videos, role play.	
Unit 1: Psychiatry	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.3: Causes of Mental Illness	**Hrs. theory 4**	**Hrs. lab**
Objectives:		
1. Describe the normal neurochemistry of the brain, as it affects reason, judgment, emotions, perceptions, impulse control. 2. Discuss the brain chemistry changes related to the following conditions: paranoid thinking, hallucinations, depression, suicidal thinking, addiction, poor impulse control, compulsive behavior. 3. Describe the kinds of childhood or adult experiences that contribute to poor mental health.	1. Anatomy and physiology of brain function. 2. Patho-physiology of mental illness symptoms. 3. Emotional consequences of childhood experiences: malnourishment, parental/societal violence, punitive, unpredictable or inconsistent care giving to children, abandonment. 4. Genetic or congenital causes, i.e. fetal alcohol syndrome. 5. Causes of chronic stress: shortages of food/shelter,	

4. Explain how genetics or poor congenital development can cause increased susceptibility to mental illness. 5. Discuss chronic stress and explain how chronic stress results in alteration of brain chemistry. 6. List "vulnerable populations" which are more likely to experience the stresses listed above. 7. Discuss this statement: All behavior is meaningful. Do you agree or disagree? Support your view with examples.	guilt, rejection by family/community, fear, powerlessness. 6. Vulnerable populations: women and children, low socio-economic groups, selected ethnic/cast groups, refugees.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities / Resources: classroom instruction, text book self study, videos, role play.
Unit 1: Psychiatry	**Hrs. theory** **Hrs. lab**
Lesson 1.4: Psychiatric assessment	**Hrs. theory 1 Hrs. lab 5**
Objectives:	Content:
1. Explain why a trusting, respectful relationship is especially important when interviewing/examining the person with mental illness. 2. Describe ways to create trust and gather information when interviewing the mentally disturbed person and their family. 3. Identify the components of a mental history and mental status exam. 4. Demonstrate taking a mental history and mental status exam using a standardized assessment form, in a simulated setting. 5. Discuss the importance of assessing for thoughts about self harm or harm to others, and assessing for auditory hallucinations. 6. Apply the diagnostic criteria of different classifications systems when making a mental health diagnosis. 7. Explain the difficulty to differentiate between mental or physical symptoms which have organic cause, and symptoms which may be caused by the anxious state known as conversion disorders or functional neurosis.	1. Principles of counseling 2. Components of a mental status exam and mental history. 3. Strategies for assessing dangerousness to self or others. 4. Diagnostic criteria 5. Differentiation of conversion disorder symptoms from organically based symptoms. 6. Process of selecting a diagnosis of mental illness.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities / Resources: classroom instruction, text book self study, videos, role play.
Unit 1: Psychiatry	**Hrs. theory** **Hrs. lab**
Sub-unit 1.5: Psychosis	**Hrs. theory 3 Hrs. lab**
Objectives:	
1. Discuss the signs and symptoms of psychosis. 2. Explain the causes for post-partum psychosis. 3. Identify medication management of psychotic symptoms; tell the desired and undesired effects of the medications used. 4. Describe social interventions for assisting the psychotic person to become in touch with reality. 5. Describe reasons when therapeutic restraint may be necessary. 6. Discuss why follow up care is especially important with psychotic disorders. 7. Identify indications for referral to a specialty care center for diagnosis and treatment.	1. Definition of psychosis, symptoms and signs of psychosis: hallucinations (auditory, visual, tactile, olfactory, taste) paranoid thinking (persecutory, grandiose), thought broadcasting, thought insertion, disorganized thinking, poor reasoning, poor impulse control, social inappropriateness, agitation, catatonia), Schizophrenia 2. Management of pharmacological antipsychotic therapy, control of side effects, patient education, family support for following medication schedule. 3. Social support for the psychotic person: calm environment, kind and firm approach to behavior control, purposeful occupation of time for the person, reassurance.

	4. Principles of safe use of physical restraint. 5. How the patient's poor understanding of the illness causes failure to follow through with prescribed treatment.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities / Resources: classroom instruction, text book self study, videos, role play.
Unit 1: Psychiatry	**Hrs. theory** **Hrs. lab**
Sub-unit 1.6: Neurosis – anxiety disorders	**Hrs. theory 2 Hrs. lab**
Objectives:	
1. Define neurosis and somatoform disorder with examples. 2. Discuss the continuum of anxiety, from mild/useful to severe/disabling. 3. Describe the neuropathology which causes the symptoms of anxiety. 4. Describe the various classifications/manifestations of anxiety disorders. 5. Discuss the diagnosis, treatment and management of anxiety neurosis. 6. Discuss the person suffering from an anxiety disorder is at greater risk for suicide. 7. Describe the social support and counseling treatment which the Health Assistant can provide to the person with anxiety disorder. 8. Discuss the risks of addiction when persons use benzodiazapine medications for anxiety, and ways to prevent misuse of these medicines. 9. Identify indications for referral.	1. Function of normal anxiety, effects of severe anxiety, neuropathology of anxiety symptoms. 2. Classifications/manifestations of anxiety disorders: a. General Anxiety disorder b. Panic disorder c. Obsessive Compulsive disorder d. Post Traumatic Stress disorder (PTSD) (see sub-unit 12) e. Phobias 3. Classifications of somatoform disorders (functional disorders). 4. Characteristics of functional neurosis/somatoform disorders. 5. Diagnosis, treatment and management of anxiety neurosis 6. Counseling and social support to meet strong emotional needs 7. Appropriate use of benzodiazapines; alternative medications (antidepressants). 8. Risks of untreated or resistive anxiety disorder. 9. Indications for referral
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities / Resources: classroom instruction, text book self-study, videos, role play.
Unit 1: Psychiatry	**Hrs. theory** **Hrs. lab**
Sub-unit 1.7: Neurosis – depressive disorders	**Hrs. theory 2 Hrs. lab**
Objectives:	
1. Define depression. 2. Discuss diseases or drugs and life stresses that may cause depression in a susceptible person. 3. Identify the signs and symptoms of clinical depression. 4. Identify social interventions for the treatment of depression. 5. Explain antidepressant medications. 6. Explain about suicidal thinking, plans and intention and their prevention. 7. Describe counseling for the person and family members. 8. Discuss the indications for referral.	1. Etiology, pathology, and clinical features of clinical depression. 2. Pharmacological and social treatments for depression. 3. Assessment of suicidal risk, supervision of suicidal person, removal of harmful items from the setting, assuring the suicidal person that the feelings are temporary, showing kindness and hopefulness. 4. Counseling the depressed person to report symptoms, teaching the family to accept the person's feelings, importance of continuing on medications after symptoms are gone. 5. Indications for referral.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities / Resources: classroom instruction, text book self study, videos, role play.

Unit 1: Psychiatry	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.8: Bipolar disorder	**Hrs. theory 3**	**Hrs. lab**
Objectives:		
1. Discuss causes for the development of symptoms of bipolar disorder. 2. Describe the clinical features of bipolar disorder. 3. Discuss the early diagnosis and management bipolar disorder. 4. Discuss that persons with bipolar disorder often stop taking their medications, causing a relapse of symptoms. 5. Discuss the social, financial and physical harm. 6. Discuss counseling for the person and family members. 7. Identify indications for referral.	1. Etiology and neuropathology of bipolar disorder. 2. Clinical features of bipolar disorder. 3. Classifications of medicines for bipolar disorder: a. Lithium b. anticonvulsants c. antidepressants 4. Counseling for the chronic nature of bipolar disorder.	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities / Resources: classroom instruction, text book self study, videos, role play.	
Unit 1: Psychiatry	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.9: Alcohol and drug abuse	**Hrs. theory 4**	**Hrs. lab 5**
Objectives:		
1. State the incidence of alcoholism and drug abuse in Nepal 2. Describe the effects of alcoholism and drug abuse on the individual, the family, the community and the nation. 3. Discuss the incidence and clinical features of abuse. 4. Discuss the criteria for determining a diagnosis of alcoholism or drug addiction/abuse. 5. Mention the long term effects of alcoholism and drug abuse on the body organs. 6. Describe the clinical features and management of alcohol withdrawal and withdrawal from the drugs of abuse. 7. Discuss reasons to stop using alcohol or drugs. 8. Discuss the programs that could be effective for alcohol and drug abuse in Nepal. 9. Discuss on drug trafficking.	1. Incidence of alcohol (including cultural acceptance) and drug abuse. 2. Effects of alcohol and drug abuse. 3. Incidence and clinical features of following abuse: a. alcohol b. benzodiazapines c. psychostimulants d. cocaine e. opiates f. hallucinogens g. inhalents h. marijuana/cannibus 4. Criteria for diagnosis. 5. Long term health effects. 6. Motivating factors. 7. Risks of alcohol and drug withdrawal 8. Management of withdrawal from alcohol and drug abuse. 9. Programs (including counseling) for control of drug & alcohol abuse.	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities / Resources: classroom instruction, text book self-study, videos, role play.	
Unit 1: Psychiatry	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.10: Childhood Mental disorders	**Hrs. theory 4**	**Hrs. lab**
Objectives:	Content:	
1. Identify the signs and symptoms of depression, anxiety, and psychosis in a child. 2. Describe the behavior that is characteristic of attention deficit/hyperactivity disorder. 3. Describe the counseling by the Health Post Incharge the parents of a child with a mental disorder. 4. Identify indications for referral.	1. Clinical features of childhood mental disorders. 2. Identifying symptoms of attention deficit/hyperactivity disorder. 3. Promoting understanding by parents, and teaching parents to use a calm, consistent, and firm but kind approach. 4. Recognizing the resistant to treatment child, psychotic child, or suicidal child. 5. Indications for referral.	

Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities / Resources: classroom instruction, text book self study, videos, role play.
Unit 1: Psychiatry	**Hrs. theory** **Hrs. lab**
Sub-unit 1.11: Psychosexual Disorders	**Hrs. theory 3 Hrs. lab**
Objectives:	Content:
1. Define psychosexual disorders. 2. Define terms that are related to the diagnosis and treatment of psychosexual disorders and sexual dysfunction. 3. Discuss the theory that compulsive psychosexual disorders 4. Discuss the management of sexual impotence or anorgasmia among men and women. 5. Discuss the legal definition of rape, and the rules governing the punishment or treatment of rapists and their victims.	1. Meanings of related terminology: paraphilias, voyeurism, pedophilia, exhibitionism, sexual sadism, sexual abuse, sexual assault, orgasm, vaginismus, anorgasmia, masturbation, premature ejaculation. 2. Etiologies of psychosexual disorders and sexual dysfunction. 3. Management of male and female sexual dysfunction. 4. Theories, legal issues, and principles of treatment for rapist and their victims. 5. Debate on view with the facts: "Rape is an act of violence, performed in anger, not an act of lust."
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities / Resources: classroom instruction, text book self study, videos, role play.
Unit 1: Psychiatry	**Hrs. theory** **Hrs. lab**
Sub-unit 1.12: Psychological trauma	**Hrs. theory 3 Hrs. lab 2**
Objectives:	
1. State the types of abuse. 2. Discuss the incidence of family violence and abuse, and human trafficking in Nepal. 3. Discuss the socio-cultural factors that contribute to family abuse and trafficking. 4. Describe the signs and symptoms of physically, mentally and socially and spiritually victimized person. 5. Demonstrate through a role play ways to carefully question the person who shows signs of abuse. 6. Identify the defining characteristics of Post Traumatic Stress Disorder (PTSD). 7. Describe the management strategies for treatment of PTSD (therapeutic counseling, medications, group therapy). 8. Identify situations to assist a victim to leave an abusive situation. 9. Describe community education activities for human rights abuses and trafficking.	1. Components of family abuse: physical (beating, denial of food or shelter, burning, cutting), sexual (forced sexual intercourse, forced oral or anal sex), psychological (threats, name-calling, social isolation), neglect (abandonment, failure to give medical care, failure to provide food or shelter, failure to provide for education, failure to keep a safe environment). 2. Current statistics for family abuse, child abandonment and trafficking. 3. Clinical signs of abuse: bruises, injuries, burns, malnutrition, poor hygiene, emotionally withdrawn/very shy or quiet, fearfulness, injuries to genitalia. 4. Characteristics and management of Post Traumatic Stress Disorder (PTSD) 5. Counseling techniques for assessing and assisting the victim. 6. Principles for ensuring protection of the victim. 7. Important components of community education efforts.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities / Resources: classroom instruction, text book self study, videos, role play.
Unit 1: Psychiatry	**Hrs. theory** **Hrs. lab**
Sub-unit 1.13: Epilepsy	**Hrs. theory 3 Hrs. lab 1**
Objectives:	
1. Identify the causes, classification, clinical features and diagnosis of epilepsy. 2. Describe the difference between a true epileptic seizure and an conversive disorder fit. 3. Identify the commonly used anticonvulsants and discuss their dose, route of administration and effects. 4. Discuss the counseling for regular intake of	1. Etiologies and classification of epilepsy. 2. Difference between a true epileptic seizure and an conversive disorder fit. 3. Clinical features of grand mal epilepsy, petit mal epilepsy, partial epilepsy. 4. Positioning for airway maintenance, prevention of injury. 5. Counseling for regular intake of medication

medication. 5. Describe the appropriate management of a seizure for adults and children. 6. Discuss the management of status epilepticus. 7. Describe indications for immediate transport for special care. 8. Discuss measures to educate the community about the causes, prevention and treatment for seizures.	6. Management of epilepsy with anticonvulsants (dose, route of administration and effects). 7. Emergency medications for status epilepticus. 8. Indications for immediate transport for special care. 9. Education to individual, family, and community for the prevention, early diagnosis, and treatment of epilepsy.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction, text book self study, videos, role play.
Unit 1: Psychiatry	**Hrs. theory** **Hrs. lab**
Sub-unit 1.14: Mental Retardation	**Hrs. theory 4 Hrs. lab 5**
Objectives:	
1. Define mental retardation 2. Identify the causes of mental retardation. 3. Describe the clinical features mental retardation. 4. Define Down's Syndrome and explain its clinical features. 5. Explain the increased risk factors. 6. Discuss on mental retardation can be better managed or prevented through family and community education. 7. Discuss the role of rehabilitation for the management of rehabilitation.	1. Definition of mental retardation. 2. Etiologies of mental retardation. 3. Clinical features of mild, moderate and severe mental retardation. 4. Definition and clinical features of Down's Syndrome 5. Risk factors associated with mental retardation. 6. Management of mental retardation. 7. Family and community education for the management and prevention of mental retardation.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities / Resources: classroom instruction, text book self study, videos, role play.

Part III: Dermatology/Sexually Transmitted Infections (STI)

Hours Theory: **50**
Hours Practical: **25**
Assessment Marks: **30%**

Course Description

This course provides a basic overview of common skin diseases and conditions, their diagnostic features, etiologies, management and prevention measures. Emphasis is given to communicable skin diseases common to Nepal, including fungal infections, parasites, and leprosy and sexually transmitted infection.

Objectives

On completion of the course the student will be able to:

1. Identify the clinical features of common skin diseases and conditions.
2. Perform a smear for laboratory investigation in the diagnosis of leprosy.
3. Describe the role of the health worker in contact tracing and follow up for leprosy cases.
4. Select appropriate treatment and medication for skin and sexually transmitted infections and conditions.
5. Describe the role of the health worker in preventing skin and sexually transmitted infections conditions.
6. Identify indications for referral to specialty services.

Recommended Textbooks:

1. Kafle, K.K., & Pinniger, R.G., Diagnositic and Treatment Manual for Primary Health Care. Health Learning Materials Center, Kathmandu. 1999.

References:

1. Tierney, L.M., et al., Current Medical Diagnosis and Treatment. Appleton Lange, Stamford CT, USA. Current edition.

Course: Medicine II	**Hrs. theory 160**	**Hrs. lab 80**
Part III: Dermatology	**Hrs. theory 50**	**Hrs. lab 25**
Unit 1: Dermatology	**Hrs. theory 36**	**Hrs. lab 18**
Sub-unit 1.1: Introduction to Dermatology	**Hrs. theory 3**	**Hrs. lab**
Objectives:	Content:	
1. Review the anatomy and physiology of the skin. 2. List the causes of skin diseases prevalent in the community. 3. Describe the clinical features of each of these disorders. 4. Describe the causes and clinical features of cellulitis. 5. Discuss the management of cellulitis. 6. Describe different types of primary and secondary skin lesions. 7. Describe symptomatic and curative treatment and prevention for common skin conditions.	1. Anatomy and physiology of the skin. 2. Identification of common skin diseases: bacterial, fungal, viral, parasitic. 3. Causes and clinical features of cellulites. 4. Characteristics of primary lesions- macules, papules, vesicles and wheals. 5. Characteristics of secondary lesions: pustules, scales, crusting, excoriation, ulcers and lichenification. 6. Common symptoms: itching, pain, discoloration, hypo/hypereasthesia.	

	7. Preventive measures.	
Evaluation methods:	Teaching / Learning Activities:	
Written exam, identification of illustrated disorders	Classroom instruction, dermatology atlas, text book self-study, supervised observation in clinical settings	
Unit 1: Dermatology	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.2: Bacterial Infections of the skin	**Hrs. theory 6**	**Hrs. lab 2**
Objectives:	Content:	
1. Define impetigo, furunculosis and boils. 2. Identify the causative agents, clinical features and diagnosis of impetigo, furunculosis and boils 3. Describe appropriate treatment for uncomplicated cases of impetigo, furunculosis and boils. 4. Identify indications for referral to a higher level facility. 5. Discuss the measures for preventing spread of these causative agents. 6. Illustrate the health teaching for the decrease of incidence of these infections.	1. Definition and causative organisms of impetigo, furunculosis and boils. 2. Common clinical features. 3. Indications for making provisional diagnoses for these conditions 4. health post management using antiseptic & antibacterial treatment. 5. Indications for surgical treatment. 6. Measures for preventing spread of these causative agents 7. Containment of pathogens in the health post setting. 8. Health education: hygiene, nutrition, medication use.	
Evaluation methods:	Teaching / Learning Activities:	
Written exam, viva, demonstration in models	Classroom instruction, dermatology atlas, textbook self-study, supervised observation in clinical settings	
Unit 1: Dermatology	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.3: Fungal infection of the skin	**Hrs. theory 6**	**Hrs. lab 2**
Objectives:	Content:	
1. Mention the commonly prevailing superficial fungal infections. 2. Identify the classifications and signs and symptoms of infection. 3. Make a provisional diagnosis of a fungal infection at the health post by using the KOH smear test. 4. Describe the management of simple fungal infections. 5. Discuss health teaching to reduce the incidence of fungal skin infections. 6. Identify indications for referral to a higher level.	1. Superficial fungal infections: tinea infection, pyrirgasisversiculorcandide. 2. Tinea corcoris, tinea capitis, tinea crusis tinea pedis. 3. Clinical features and presentations. 4. Antifungals: topical, oral. 5. Preventive measures 6. Health teaching to reduce the incidence of fungal skin infections 7. Indications for referral	
Evaluation methods:	Teaching / Learning Activities:	
Written exam, viva	Classroom instruction, dermatology atlas, textbook self-study, supervised observation in clinical settings. Lab: Preparation of KOH smear according to written guidelines.	
Unit 1: Dermatology	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.4: Viral infection of skin	**Hrs. theory 5**	**Hrs. lab 2**
Objectives:	Content:	
1. Describe commonly prevalent dermatological viral infections. 2. Identify the signs and presentations of warts (molluscum contagiosum) and herpes zoster infection. 3. Discuss the management of common viral infections of skin.	1. Common viral infections of the skin. 2. Signs and presentation of warts (molluscum contagiosum) & herpes zoster infection. 3. Treatment of uncomplicated warts and herpes zoster Infection. 4. Preventive measures, early diagnosis and	

4. Discuss the importance of early identification and referral of herpetic infection of eye. 5. Describe ways to prevent viral infection of the skin.	treatment. 5. importance of early identification and referral of herpetic infection of eye	
Evaluation methods:	Teaching / Learning Activities:	
Written test, viva	Classroom instruction, dermatology atlas, textbook self-study, supervised observation in clinical settings, case discussion in clinic.	
Unit 1: Dermatology	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.5: Parasitic infections of the skin	**Hrs. theory 4**	**Hrs. lab 2**
Objectives:	Content:	
1. Define scabies and pediculosis 2. Discuss the causative agents. 3. Describe the characteristics of these parasites. 4. Identify the clinical features and presentations of scabies and pediculosis. 5. Describe the management of simple scabies and pediculosis. 6. State the important components of health education to the patients and family.	1. Definition and causative agents of lice and scabies. 2. Characteristics of Sarcoptes scabei and lice. 3. Types of lice infestation, body lice, head lice, pubic lice. 4. Signs and symptoms of scabies. 5. Management of scabies and pediculosis. 6. Prevention and health education.	
Evaluation methods:	Teaching / Learning Activities:	
Written test, viva	Classroom instruction, dermatology atlas, textbook self-study, supervised observation in clinical settings	
Unit 1: Dermatology	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.6: Leprosy	**Hrs. theory 3**	**Hrs. lab 3**
Objectives:	Content:	
1. Discuss the incidence of leprosy in Nepal. 2. Describe the etiology and transmission of leprabacillus. 3. Describe the early and late clinical features and differential dignosis of leprosy. 4. Describe the procedure for prepartion of skin smear for leprosy. 5. Explain the classification of leprosy. 6. Describe the WHO recommendations for multi-drug therapy. 7. Identify antileprotic medicines and their undesired effects. 8. State the procedure for recording and reporting leprosy cases. 9. State the role of health education.	1. Incidence of leprosy in Nepal. 2. Classification of leprosy paucibacillery (PB) and multibacillery (MB). 3. Early and late clinical features and differential dignosis of leprosy 4. Clinical prevention of PB and MB. 5. Steps in the process of preparing slides for AFB. 6. Concept of multi drug therapy (MDT), drugs used in MDT and their common side effects. 7. Type I and Type II reactions detection and management. 8. Procedure for recording and reporting leprosy cases 9. Health education for the patient, family and community.	
Evaluation methods:	Teaching / Learning Activities:	
Written, viva exam; performance observation of slide preparation	Classroom instruction, dermatology atlas, textbook self-study, supervised observation in clinical settings, lab practice of slide preparation using skill guidelines, discussion, video film, field visit to leprosy hospital	

Unit 1: Dermatology	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.7: Allergic conditions of the skin	**Hrs. theory 4**	**Hrs. lab 2**
Objectives:	Content:	
1. Define eczema and dermatitis. 2. Identify the clinical features and presentation of common types of eczema and dermatitis. 3. Describe the management of common types of eczema. 4. Discuss the components of health teaching to individuals and community groups to reduce the occurrence of eczema and dermatitis.	1. Definition of eczema and dermatitis. 2. Common types: contact and irritant dermatitis, contact allergic dermatitis, atopic eczema, infective eczema. 3. Signs, symptoms and presentation of eczema. 4. Treatment with topical steroids. 5. Treatment of infected eczema. 6. Principles of counseling and health education.	
Evaluation methods:	Teaching / Learning Activities:	
Written, viva exam; use of atlas.	Classroom instruction, dermatology atlas, textbook self-study, supervised observation in clinical settings, case demonstration	
Unit 1: Dermatology	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.8: Urticaria and drug eruptions	**Hrs. theory 2**	**Hrs. lab 3**
Objectives: "Students will be able to"	Content:	
1. Define uticaria. 2. Describe the etiologies, clinical features and treatments for uticaria. 3. Differentiate between acute drug eruptions and uticaria. 4. Describe the clinical features of drug eruptions. 5. Describe the management of uticaria. 6. Identify indications for referral to a higher level. 7. Discuss the ways to prevent the occurrence of uticaria and drug eruptions.	1. Definition of acute eruption and drug reaction. 2. Causes of uticaria 3. Signs and symptoms of uticaria 4. Fixed drug eruptions, 5. Acute drug eruptions following sulphonomide antibiotics. 6. Treatment of drug eruptions: topical and systemic. 7. Indications for referral to a higher level. 8. Preventive measures for urticaria and drug eruptions	
Evaluation methods:	Teaching / Learning Activities:	
Written, oral exam	Classroom instruction, dermatology atlas, textbook self-study, supervised observation in clinical settings, case demonstration	
Unit 1: Dermatology	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.9: Minor disorders in dermatology	**Hrs. theory 3**	**Hrs. lab 2**
Objectives:	Content:	
1. Describe the etiologies and clinical features of: Acne vulgaris Psoriasis Vitiligo Miliaria 2. Discuss the management of uncomplicated cases. 3. Identify indications for referral to a higher level.	1. Etiologies and clinical features of acne vulagaris, psoriasis, vitiligo and miliaria. 2. Using topical ointments in the management of these disorders. 3. Indications for referral.	
Evaluation methods:	Teaching / Learning Activities:	
Written, oral exam	Classroom instruction, dermatology atlas, textbook self-study, supervised observation in clinical settings,	
Unit 2: Sexually Transmitted Infectious Diseases (STID)	**Hrs. theory 14**	**Hrs. lab/practical 7**
Sub-unit 2.1: Gonorrhoea and Chlamydia	**Hrs. theory 4**	**Hrs. lab/practical 2**
Objectives:	Content:	
1. Describe the aetiologies of gonorrhoea and chlamydia infections. 2. State the modes of transmission and identify the cardinal features.	1. Etiologies, transmission, clinical features of Nisseria gonorrohoea and chlamydia. 2. Signs and symptoms of gonorrhea 3. Steps in the process of smear preparation and	

3. Demonstrate preparation of urethral smear for gonococci according to guidelines. 4. Identify the signs and symptoms of gonoccocal urethritis. 5. Discuss the treatment and complications of gonorrhea and chlamydia. 6. Discuss the important points of counseling the patient regarding prevention, reporting, and medical treatment. 7. Discuss the health education measures as a means of prevention.	interpretation. 4. Treatment of gonococcal urethritis, chlamydia and post gonococcal urethritis. 5. Complications of gonorrhea and chlamydia. 6. Counseling and preventive education for these infections.	
Evaluation methods:	Teaching / Learning Activities:	
Written , viva, performance observation	Classroom instruction, dermatology atlas, textbook self-study, supervised observation in clinical settings, case discussion, lab preparation and interpretation of smear, review of national guidelines on the treatment of STD.	
Unit 2: Sexually Transmitted Infectious Diseases (STID)	**Hrs. theory**	**Hrs. lab/practical**
Sub-unit 2.2: Syphilis and chancroid	**Hrs. theory 4**	**Hrs. lab/practical 2**
Objectives:	Content:	
1. Describe the aetiology of syphilis and chancroid. 2. Describe the modes of transmissions, cardinal signs and clinical features of syphilis and chancroid. 3. Demonstrate the procedure and interpretation of the laboratory investigations in differential diagnosis of syphilis and chancroid. 4. List the complications of syphilis and chancroid. 5. Describe the treatment for chancroid and syphilis according to national guidelines. 6. Describe the important points of counseling to the patient regarding treatment, reporting, and prevention.	1. The etiologies and transmission modes of syphilis and chancroid. 2. Clinical features and pathology of these diseases. 3. Signs and symptoms of primary, secondary and tertiary syphilis. 4. Differential diagnosis of ulcerative lesions. 5. Lab investigations in syphilis. 6. Complications of syphilis and chancroid. 7. National guidelines for treatment of syphilis chancroid. 8. Principles and content of preventive counseling (including condom promotion).	
Evaluation methods:	Teaching / Learning Activities:	
Written , viva, performance observation	Classroom instruction, dermatology atlas, textbook self-study, supervised observation in clinical settings, case discussion, review of national guidelines on the treatment of STDs Role play for counseling.	
Unit 2: Sexually Transmitted Infectious Diseases (STID)	**Hrs. theory**	**Hrs. lab/practical**
Sub-unit 2.3: Human Immuno-deficiency Virus/Acquired Immune Deficiency Syndrome (HIV / AIDS)	**Hrs. theory 4**	**Hrs. lab/practical 1**
Objectives:	Content:	
1. Discuss the incidence and epidemiology of HIV/AIDS in Nepal. 2. Describe the aetiology and pathogenesis of HIV/AIDS. 3. State the modes of transmissions of HIV. 4. Describe the meaning and importance of "window period". 5. Describe the clinical presentations at different stages of HIV infection and AIDS. 6. Describe the investigations and interpretations necessary for differential diagnosis. 7. Explain the current recommendations for the use of antiretroviral drugs. 8. Describe the role of health education.	1. Incidence and epidemiology of HIV/AIDS in Nepal 2. Aetiology and pathogenesis of HIV and AIDS. 3. Modes of transmission 4. Window period. 5. Clinical features 6. Stages of the infection. 7. Laboratory investigations and interpretation. 8. Current concepts in the use of antiretroviral therapy and condom. 9. Prevention, management and de-stigmatization of HIV/AIDS. 10. National policy in the control of HIV/AIDS.	

9. Describe in brief the national policy for the control of HIV/AIDS.	
Evaluation methods:	Teaching / Learning Activities:
Written, viva	Classroom instruction, dermatology atlas, textbook self-study, supervised observation in clinical settings, case discussion, role play for counseling, viewing of video films.
Unit 2: Sexually Transmitted Infectious Diseases (STID)	**Hrs. theory Hrs. lab/practical**
Sub-unit 2.4: Venereal warts and herpes	**Hrs. theory 2 Hrs. lab/practical 2**
Objectives:	Content:
1. Describe the etiology, transmission and clinical features. 2. Describe the treatment and management according to national guidelines. 3. State the complications of venereal warts and herpes. 4. Describe the counseling the patients.	1. Etiologies, transmission, clinical features, 2. Treatment and complications of venereal warts and herpes. 3. Counseling the patients about the management of symptoms and prevention of spread of these infections.
Evaluation methods:	Teaching / Learning Activities:
Written examinations, viva	Classroom instruction, supervised field practice/clinical practice, textbook self study, national guidelines on treatment of STDs.

Course: **Surgery II (ENT, Dentistry, Ophthalmology)**
Hours Theory: **160**
Hours Practical: **80**
Assessment Marks: **150 (Theory 100 + Practical 50)**
Weightage: **ENT 35%, Dentistry 30% and Ophthalmology 35%**

Part I: Otorhinolaryngology (Ear, Nose and Throat)

Hours Theory: **60**
Hours Practical: **30**
Assessment Marks: **35 (ear=15 marks, nose=10 marks, throat=10 marks)**

Course Description
This course provides a basic foundation in the assessment and management of common conditions of the ear, nose and throat. The student learns to examine these structures and to identify abnormal findings. In addition, this course prepares the student to manage the uncomplicated condition with health post resources or refer cases which require expert attention.

Course Objectives
On completion of the curse the student will be able to:

1. Perform a complete history taking regarding the functions, clinical features and symptoms of the ear, nose and throat.
2. Conduct a basic physical exam of the ear, nose and throat and identify abnormalities.
3. Detect hearing impairment in children and adults.
4. Manage common and uncomplicated conditions of the ear, nose and throat including:
    a. epistaxis
    b. foreign body removal
    c. cerumen removal
    d. middle or external ear infections
    e. adenitis and tonsillitis
5. Identify indications for referral of cases requiring expert management.
6. Provide community education to promote ear, nose and throat safety, early diagnosis and treatment of ear, nose and throat conditions.

Recommended Texts:

Dhingra, P.L., Diseases of the Ear, Nose and Throat. B.I. Churchill Livingston, New Delhi, India. Current edition.

Magbool, M., Textbook of Ear Nose and Throat Diseases. Jaypee Bros. India. Current edition.

Hall & Coleman, Diseases of the Nose, Throat and Ear. Churchill Livingston, Current edition.

Course : Sugery II	**Hrs. theory**	**Hrs. lab**
Unit 1: Otorhinolaryngology	**Hrs. theory 60**	**Hrs. lab 30**
Sub-unit 1.1: Anatomy and assessment of the ear	**Hrs. theory 6**	**Hrs. lab 4**
Objectives:	Content:	
1. Review the anatomical features of the ear. 2. Describe the function and normal physiology of each part. 3. Demonstrate how to perform examination of the external ear using an otoscope and tuning fork. 4. List the important components of the history taking. 5. Discuss the symptoms and signs of common ear conditions. 6. Discuss the assessment and implications of cholesteatoma with regard to middle ear conditions.	1. Anatomy and physiology of the external, middle and inner ear. 2. Components of history taking. 3. Examination of the external ear using an otoscope and tuning fork 4. Technique and procedure and equipment for ear examination. 5. Clinical features of common ear conditions. 6. Assessment and implications of cholesteatoma with regard to middle ear conditions	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models	
Unit 1: Otorhinolaryngology	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.2: Infections of the ear	Hrs. theory 6	Hrs. lab 3
Objectives:	Content:	
1. Identify the causes, contributing factors and pathology of common external and internal ear infections. 2. Describe the clinical features of ear infections for adults and children: 3. Identify investigations for differential diagnosis. 4. Describe the management and medical treatments. 5. Discuss the clinical features which indicate the complication of mastoiditis. 6. Discuss the indications for referral. 7. Describe counseling for parents of children with chronic ear infections	1. Etiologies, pathogenesis and conditions related to ear infections. 2. Signs and symptoms of ear infections among children and adults. a. acute and chronic suppurative otitis media b. barotraumas c. chronic suppurative otitis media 3. Differential diagnosis and management. 4. Indications of complications. 5. Indications for referral. 6. Education efforts for promotion of proper ear condition. (including position for breast feeding, use of oils and pricking by stick)	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models	
Unit 1: Otorhinolaryngology	**Hrs. theory**	**Hrs. lab**
Sub-unit 1.3: Hearing impairment	Hrs. theory 6	Hrs. lab 2
Objectives:	Content:	
1. Demonstrate how to assess the hearing acuity of an infant, child or adult. 2. Identify causes of hearing impairment. 3. Describe the procedure for removal of cerumen from the external ear. 4. Discuss the contribution of deafness to communication failure, strategies and resources for promoting communication with deaf persons. 5. Discuss the important components of a health education program for prevention, early diagnosis and treatment for hearing loss.	1. Procedures for hearing assessments. 2. Pathophysiology and etiologies of hearing loss. 3. Procedure for safe cerumen removal 4. Magnitude of disability from deafness 5. Communication methods for deaf persons. 6. Components of community education aimed toward prevention of hearing loss.	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, field visit to school for deaf persons	

Unit 1: Otorhinolaryngology	**Hrs. theory** **Hrs. lab**
Sub-unit 1.4: Ear trauma	Hrs. theory 6 Hrs. lab 3
Objectives:	Content:
1. Identify common causes of trauma to the pinna, external, middle and inner ear. 2. Discuss management of ear trauma. 3. Describe the procedure for removal of a foreign body from the external ear canal. 4. Describe procedure for transfer of a person with ear trauma for higher level.	1. Causes and clinical features of ear trauma. 2. Management of ear trauma. 3. Removal of foreign body from the external ear canal. 4. Indications for referral.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models
Unit 1: Otorhinolaryngology	**Hrs. theory** **Hrs. lab**
Sub-unit 1.5: Anatomy and assessment of the nose	Hrs. theory 6 Hrs. lab 3
Objectives:	Content:
1. Review the anatomical and physiological features of the nose. 2. Demonstrate how to perform examination of the nose using a torch light and nasal speculum. 3. Discuss the signs and symptoms of common nasal abnormal conditions. 4. List the important components of the history taking of nasal conditions. 5. Identify indications for referral.	1. Anatomy and physiology of the nose, sinuses and related anatomical parts. 2. Technique, procedure and equipment for nasal as well as sinus examination. 3. Clinical features of common nose and sinus conditions. a. deviated nasal septum b. rhinosporidiosis c. atrophic rhinitis d. sinusitis e. nasal polyps 4. Components of history taking related to nasal and sinus conditions. 5. Assessment of conditions requiring referral.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models
Unit 1: Otorhinolaryngology	**Hrs. theory** **Hrs. lab**
Sub-unit 1.6: Allergic rhinitis and nasal infections	Hrs. theory 6 Hrs. lab 3
Objectives:	Content:
1. Identify the causes, contributing factors and pathology of common nose and sinus infections. 2. Describe the investigations for differentiating between allergic rhinitis and infection. 3. Describe the clinical features of allergic rhinitis, nasal and sinus infections for adults and children. 4. Describe the investigations for differentiating between allergic rhinitis and infection 5. Correlate sinusitis with middle ear infections. 6. Describe the management and medical treatments for allergic rhinitis, and for nasal and sinus infections. 7. Discuss indications for referral to a higher level. 8. Describe counseling for persons with chronic infections or allergic rhinitis for prevention and control.	1. Etiologies, pathogenesis and conditions related to allergic rhinitis and infections of the nose and sinuses. 2. Signs and symptoms of allergies and infections among children and adults. a. acute and chronic sinusitis b. atrophic rhinitis c. rhinosporidiosis d. allergic rhinitis 3. Differential diagnosis and appropriate treatment. 4. Pathology and indications of complications. 5. Education efforts for prevention of allergic reactions and chronic sinusitis.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models

Unit 1: Otorhinolaryngology	**Hrs. theory** **Hrs. lab**
Sub-unit 1.7: Nasal trauma	Hrs. theory 5 Hrs. lab 3
Objectives:	Content:
1. Describe the various types of commonly seen nasal injuries. 2. Describe common causes and management of epistaxis. 3. Describe the procedure for removal of a foreign body from the nose. 4. Describe the clinical features and management for deviated nasal septum. 5. Identify indications for referral.	1. Common nasal injuries and their management. a. cartilage fracture b. foreign body c. penetration would 2. Common causes and management of epistaxis 3. Clinical features and management for deviated nasal septum. 4. Removal of foreign body. 5. Indications for referral.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models
Unit 1: Otorhinolaryngology	**Hrs. theory** **Hrs. lab**
Sub-unit 1.8: Anatomy and assessment of larynx & pharynx	Hrs. theory 6 Hrs. lab 3
Objectives:	Content:
1. Identify the anatomical and physiological features of the larynx, pharynx and related anatomy. 2. Demonstrate how to perform examination of the larynx, pharynx and related parts using a head mirror and spatula. 3. Discuss the symptoms and signs of common throat conditions. 4. List the important components of the history taking of throat conditions	1. Anatomy and physiology of the throat. 2. Technique, procedure and equipment for throat examination. 3. Clinical features of common throat conditions. 4. Components of history taking related to throat conditions.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models
Unit 1: Otorhinolaryngology	**Hrs. theory** **Hrs. lab**
Sub-unit 1.9: Infections of the throat	Hrs. theory 7 Hrs. lab 3
Objectives:	Content:
1. Identify the etiologies and clinical features of acute and chronic tonsillitis, epiglottitis, pharyngitis and laryngitis. 2. Discuss investigations for differential diagnosis. 3. Describe the management of throat infections. 4. Discuss the relationship between nutrition and recurrent throat infections as well as throat infection and rheumatic heart diseases. 5. Describe the complications of throat infections. 6. Identify indications for referral. 7. Describe the important components of a community education program aimed at reducing the incidence and complications of throat infections.	1. Clinical features of throat infections 2. Differential diagnosis and management of throat infections. 3. Complications of throat infections. 4. Relationship between nutrition and recurrent throat infections 5. Recurrent throat infections and rheumatic heart diseases 6. Preventive measures: a. early diagnosis and screening b. general health and nutrition c. avoidance of irritants 7. Indications for referral.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models

Unit 1: Otorhinolaryngology	**Hrs. theory** **Hrs. lab**
Sub-unit 1.10: Laryngeal neoplasm	Hrs. theory 6 Hrs. lab 3
Objectives:	Content:
1. Define laryngeal neoplasm 2. Identify the clinical features of laryngeal neoplasm. 3. Discuss the contributing factors and risk factors for acquiring laryngeal neoplasm. 4. Describe the complications of laryngeal neoplasm. 5. Describe the important components of community education in prevention of laryngeal neoplasm.	1. Definition of laryngeal neoplasm 2. Etiology and pathology of laryngeal neoplasm. 3. Risk factors and preventive education: a. tobacco use b. hereditary c. cooking smoke d. occupational hazards e. environmental pollution 4. Complications of laryngeal neoplasm. 5. Components of community education in prevention of laryngeal neoplasm.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models

Part II: Dentistry

Hours Theory: **40**
Hours Practical: **20**
Assessment Marks: **30**

Course Description

This course prepares the student to perform a basic assessment of the teeth and oral cavity and their functions, and to identify and treat common uncomplicated conditions that can be managed in Health Post resources. Students will learn to identify cases of periodontal disease, caries, infections and lesions of the mouth, and to recognize conditions requiring referral for expert management. Students will be able to perform simple extractions of loose teeth using anaesthesia. Attention is given to preventive education of the community members, and early diagnosis and treatment for dental and oral cavity conditions.

Course Objectives
On completion of this course the student will be able to:

1. Perform a basic history taking and examination of the teeth and mouth structures.
2. Conduct simple extraction of loose teeth using ansaethesia.
3. Manage common uncomplicated mouth conditions.
4. Identify persons who exhibit signs of cancer of the mouth and advise for expert management.
5. Manage simple infections of the gums and mouth using health post resources.
6. Identify indications for referral to specialty facilities.
7. Promote dental health through community education programs.

Reference Texts

Course: Surgery II	**Hrs. theory** **Hrs. lab**
Part II: Dentistry	
Unit 1: Dentistry	**Hrs. theory 40 Hrs. lab 20**
Sub-unit 1.1: Introduction	**Hrs. theory 4 Hrs. lab 2**
Objectives:	Content:
1. Define dentistry, it's types and branches. 2. State the fundamental principles of dental care. 3. Enumerate the chronology of eruption of deciduous and permanent teeth. 4. Describe the anatomy of teeth, including adjacent tissues, blood supply and nerve supply. 5. Describe the functions of the teeth, muscles of mastication and mandibular movement.	1. Definition and composition of dentistry. 2. Promotion of dental health, prevention of dental disease, patient rights for safe, caring and competent treatment. 3. Normal eruption of deciduous and permanent teeth. 4. Anatomical characteristics of teeth and related parts. 5. Functional descriptions of mastication.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Dentistry	**Hrs. theory** **Hrs. lab**
Sub-unit 1.2: Examination of mouth	**Hrs. theory 4 Hrs. lab 2**
Objectives:	Content:
1. Describe the principles and procedures for maintaining asepsis during dental procedures. 2. Describe measures to prevent the spread of HIV AIDs. 3. Name and describe the basic instruments for dental care. 4. State the uses/functions and care of each dental instrument. 5. Describe the procedure for examination of the oral cavity. 6. Identify common normal and abnormal findings of the oral exam. 7. Describe procedures for documentation of the oral exam. 8. Discuss ways to modify procedures when the patient is a small child or unable to cooperate.	1. Aseptic measures for dentistry. 2. Precautions for preventing infection by blood borne diseases. 3. Dental instrument use and care. 4. Procedure of oral examination. 5. Interpretation of finding of oral examination. 6. Procedures for documentation of dental assessment and care. 7. Methods to adapt to care of patients unable to cooperate. 8. Procedure for clinical oral examination
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Dentistry	**Hrs. theory** **Hrs. lab**
Sub-unit 1.3: Dental health	**Hrs. theory 4 Hrs. lab 3**
Objectives:	Content:
1. Discuss the importance of maintaining oral hygiene to prevent gum disease and tooth loss. 2. Discuss the health risks related to gum disease and tooth loss. 3. Discuss the relationship of nutrition and dental health. 4. Discuss the relationship between use of tobacco and mouth cancer. 5. Describe the recommended technique and frequency for tooth brushing and flossing. 6. Discuss ways to promote the good dental hygiene	1. Relationship of dental hygiene and dental health. 2. Health risks of poor dentition and gum disease. 3. Importance of nutrition for health teeth. 4. Factors contributing to oral cancer. 5. Principles of teaching/learning that promote good oral hygiene behaviors. 6. Procedure for proper tooth brushing and flossing 7. Promotion of good dental hygiene through health education.

through health education.	
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Dentistry	**Hrs. theory** **Hrs. lab**
Sub-unit 1.4: Plaque, calculus and caries	**Hrs. theory 4 Hrs. lab 2**
Objectives:	Content:
1. Describe the etiologies and causes of dental plaque, calculus and dental caries. 2. Discuss the classification, composition and sequelae of dental plaque and calculus. 3. Discuss ways to prevent or control dental plaque and calculus. 4. Describe the clinical features, complications and prevention of dental caries. 5. Describe indications for referral.	1. Etiologic theories of plaque and calculus formation. 2. Classification, composition and sequelae of dental plaque and calculus. 3. Prevention of plaque and calculus. 4. Acidogenic and proteolytic theories of dental caries formation. 5. Clinical features, complications and prevention of dental caries formation. 6. Indications for referral. 7. Performance for oral cavity examination and identify plaque, calculus and dental carries.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Dentistry	**Hrs. theory** **Hrs. lab**
Sub-unit 1.5: Diseases of the gums	**Hrs. theory 4 Hrs. lab 2**
Objectives:	Content:
1. Describe the causes, signs and symptoms of gum diseases. 2. Perform examination of gum. 3. Describe the treatments and management of gum diseases. 4. Discuss the complications of untreated gum diseases. 5. Identify indications for referral. 6. Describe health education measures to prevent gum diseases.	1. Etiologies, clinical features of common gum diseases. a. periodonitis b. gingivitis c. peridental pockets and abscess d. pericoronitis e. pulpotos f. osteomyelitis 2. Examination of gum and treatment for the common gum diseases. 3. Complications of gum disease. 4. Indications for referral of gum diseases. 5. Health education to prevent gum diseases.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Dentistry	**Hrs. theory** **Hrs. lab**
Sub-unit 1.6: Cancer of the mouth	**Hrs. theory 5 Hrs. lab 2**
Objectives:	Content:
1. State the theories of causation of oral cancers. 2. Describe the signs and symptoms of pre-cancerous and cancerous lesions of the mouth. 3. Discuss the importance of follow up care by a cancer specialist if suspicious lesions are present. 4. Describe health education aimed of early diagnosis of oral cancer for prevention.	1. Etiologies and clinical features of oral cancers. 2. Specialized treatments for oral cancer. 3. Early detection of oral cancer and its prevention measures.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Dentistry	**Hrs. theory** **Hrs. lab**

Sub-unit 1.7: Tempomandibular joints (TMJ) disorders	**Hrs. theory 3 Hrs. lab 1**
Objectives:	Content:
1. Describe the signs and symptoms of dislocation of the TMJ. 2. Discuss management of TMJ dislocation. 3. Differentiate trismus due to dental causes from other causes. 4. Identify indications for referral.	1. Etiology and management of dislocation of tempomandibular joint. 2. Etiologies and differential diagnosis of trismus. 3. Management of trismus and TMJ dislocation.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Dentistry	**Hrs. theory Hrs. lab**
Sub-unit 1.8: Tooth extraction	**Hrs. theory 4 Hrs. lab 2**
Objectives:	Content:
1. Describe indications, contraindications and complications of tooth extraction. 2. Describe the process of removal of loose teeth. 3. Describe administration and management of local anaesthesia for tooth extraction. 4. State the pre-extraction patient instructions for tooth extraction. 5. Identify post removal instructions for the patient having tooth extraction. 6. Identify the indications for follow up.	1. Indications, c0ntraindications, and complications of tooth extraction. 2. Procedure for tooth extraction. 3. Procedure for use of anaesthesia. 4. Patient instructions before and after tooth extraction. 5. Indications for follow up care. 6. Observation for tooth extraction procedures.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Dentistry	**Hrs. theory Hrs. lab**
Sub-unit 1.9: Dental prosthesis	**Hrs. theory 4 Hrs. lab 2**
Objectives:	Content:
1. Differentiate the common dental prosthetics. 2. Summarize the function and care of the common dental prosthetics. 3. Discuss complications related to the use of dental prosthetics. 4. Discuss patient education to prevent complications related to the use of dental prosthetics.	1. Types, function and styles of common dental prosthetics. 2. Care of dental prosthetics. 3. Complications for use of dental prosthetics. 4. Prevention of complications from dental prosthetics.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Dentistry	**Hrs. theory Hrs. lab**
Sub-unit 1.10: Dental occlusion	**Hrs. theory 4 Hrs. lab 2**
Objectives:	Content:
1. Describe the common types of dental occlusion. 2. Explain how dental occlusion can interfere with dental function. 3. Identify indications for referral.	1. Clinical features of various forms of dental occlusion. 2. Effects of dental occlusion. 3. Management and referral of persons with dental occlusion. 4. Observation the condition of dental occlusion
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts

Part III: Ophthalmology

Hours Theory: **60**
Hours Practical: **30**
Assessment Marks: **35**

Course Description

This course prepares the student to perform a basic assessment of the eye and it's function, and to identify and treat common uncomplicated conditions which can be managed with Health Post resources. Students will learn to identify cases of refractive errors, to manage cases of injury or foreign body, and to recognize conditions requiring referral for expert management. Attention is given to preventive education of the community members, and early diagnosis and treatment for eye diseases.

Course Objectives

On completion of this course the student will be able to:

1. Perform a basic history taking and examination of the eye structures.
2. Conduct a visual acuity test for an adult or child.
3. Manage common uncomplicated eye conditions.
4. Identify persons at risk for complications of eye disease and advise for expert management.
5. Manage eye trauma using health post resources.
6. Identify indications for referral to specialty facilities.
7. Promote eye health through community education programs.

Reference Texts

- Hatterjee's Handbook of Ophthalmology. CBS Publishers, India. Current edition.
- Kanski, J.J., Clinical Ophthalmology. B.H., International edition. Current edition.
- Khurana, A.K., Ophthalmaology. New Age International, India. Current edition.

Course: Surgery II	**Hrs. theory** **Hrs. lab**
Unit 1: Ophthalmology	**Hrs. theory 60 Hrs. lab 30**
Sub-unit 1.1: Anatomy of the eye	**Hrs. theory 5 Hrs. lab 2**
Objectives:	Content:
1. Describe the functions of the eye. 2. Identify the anatomical features of the eye. 3. Identify diseases of the eye which are prevalent in Nepal. 4. Describe the contribution of nutrition in eye disease.	1. Anatomy and physiology of the eye and surrounding parts. 2. Identification the prevalent diseases of the eye in Nepal. 3. Common disorders of the eye. 4. Nutritional factors in eye disease.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Ophthalmology	**Hrs. theory** **Hrs. lab**
Sub-unit 1.2: Eye examination	**Hrs. theory 5 Hrs. lab 2**
Objectives:	Content:
1. Describe the procedure for evaluating visual acuity in an adult, child or infant. 2. Discuss the appropriate precautions to take to avoid bringing contamination into the eye during the examination process. 3. Describe the normal and abnormal findings of a visual inspection of the eye. 4. Demonstrate the procedure for performing a visual examination of the external components of the eye.	1. Procedure for safely inspecting the exterior eye and conjunctiva. 2. Description the normal and abnormal findings of a visual inspection of the eye. 3. Procedures to follow for performing a visual acuity and Issihara chart. 4. Clinical features of the normal eye and signs or symptoms of disease.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Ophthalmology	**Hrs. theory** **Hrs. lab**
Sub-unit 1.3: Lid diseases	**Hrs. theory 4 Hrs. lab 2**
Objectives:	Content:
1. Identify common lid diseases. 2. Describe the etiologies and pathology of these disorders. 3. Describe the clinical features, investigations, differential diagnosis and kinds of complications. 4. Identify the recommended treatment for each. 5. Discuss the prevention of these diseases through community education. 6. Identify indications for referral.	1. Etiologies and pathology, clinical features, investigations and differential diagnosis for common lid diseases: chalazian, stye, blephitis, entropion, ectropion, and trichiasis. 2. Recommended treatment, complications, indications for referral. 3. Prevention of lid diseases.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Ophthalmology	**Hrs. theory** **Hrs. lab**
Sub-unit 1.4: Conjunctivitis	**Hrs. theory 4 Hrs. lab 2**
Objectives:	Content:
1. Define conjunctivitis and signs and symptoms of conjunctivitis 2. Identify the etiologies and pathology of conjunctivitis. 3. Identify examples of bacterial, viral, and allergic causes for conjunctivitis. 4. Differentiate between contagious and non-contagious conjunctivitis. 5. Discuss procedures to prevent the spread of infective conjunctivitis in the health post and to members in the family or community.	1. Etiologies, pathology, clinical features, treatments of conjunctivitis. 2. Infection control of contagious conjunctivitis. 3. Differential diagnosis. 4. Observation of conjunctivitis cases.

Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Ophthalmology	**Hrs. theory Hrs. lab**
Sub-unit 1.5: Trachoma	**Hrs. theory 4 Hrs. lab 2**
Objectives:	Content:
1. Define trachoma, etiology and pathology of trachoma. 2. Describe the clinical features and differential diagnosis. 3. Differentiate between early and late stage symptoms and signs of trachoma. 4. Discuss early diagnosis of trachoma and prevention. 5. Identify the recommended treatment for trachoma. 6. Identify indications for referral.	1. Etiology, pathology, clinical features, treatment and prevention of trachoma. 2. History taking and clinical examination of eye. 3. Indications for referral.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Ophthalmology	**Hrs. theory Hrs. lab**
Sub-unit 1.6: Xerophthalmia	**Hrs. theory 5 Hrs. lab 2**
Objectives:	Content:
1. Define xerophthalmia and mention its contributing factors. 2. Discuss the WHO classification of xerophthalmia. 3. Identify the clinical features and differential diagnosis. 4. Explain the age related factor of xerophthalmia. 5. Discuss the management and prevention.	1. Definition, causes, classification, sign and symptoms of xerophthalmia. 2. Treatment and prevention of xerophthalmia.eg. Taro, carrot and tomato. 3. History taking and clinical examination of client of xerophthalmia.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Ophthalmology	**Hrs. theory Hrs. lab**
Sub-unit 1.7: Visual Acuity	**Hrs. theory 5 Hrs. lab 4**
Objectives:	Content:
1. Describe the process of vision reception. 2. Discuss the importance of vision in maintaining a safe and productive life. 3. Describe the reasons for regular visual acuity examinations.	1. Physiology of vision, principles of eye care, rationale for prevention of eye disorders. 2. History taking and clinical examination of client of visual acuity disorder. 3. Confirmation and management referral for the client if visual acuity is low.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Ophthalmology	**Hrs. theory Hrs. lab**
Sub-unit 1.8: Corneal ulceration	**Hrs. theory 4 Hrs. lab 2**
Objectives:	Content:
1. Define corneal ulcer, causes and clinical features of corneal ulcer. 2. Describe the treatment for simple corneal ulcer. 3. Identify indications for referral. 4. Discuss community education measures can reduce the incidence of corneal ulcers.	1. Etiologies, pathology, clinical features, treatment and prevention of corneal ulcers: Specially focus on harvesting and agriculture procedures. 2. History taking and clinical examination of client of corneal ulcer. 3. Indications for referral.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts

Unit 1: Ophthalmology	**Hrs. theory** **Hrs. lab**
Sub-unit 1.9: Cataract	**Hrs. theory 4 Hrs. lab 2**
Objectives:	Content:
1. Define cataract and mention their incidence. 2. Identify the etiology, pathology and clinical features of cataract. 3. Discuss the surgical correction of cataract. 4. Describe community education measures for prevention of cataracts among the population.	1. Etiology, pathology, clinical features, treatment and prevention of cataracts. 2. History taking and clinical examination of client of cataract. 3. Community education measures for prevention of cataracts among the population. 4. Indications for referral.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Ophthalmology	**Hrs. theory** **Hrs. lab**
Sub-unit 1.10: Uvities and Iridocyclitis	**Hrs. theory 1 Hrs. lab 2**
Objectives:	Content:
1. Define uvities and iridocyclitis 2 Discuss the causes and clinical features of uvities and iridocyclitis 3. Describe the treatment for uvities and iridocyclitis. 4. Identify indications for referral.	1. Causes and clinical features, treatment and referral for uvities and iridocyclitis. 2. History taking and clinical examination of uvities or iridocyclitis. 3. Indications for referral.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Ophthalmology	**Hrs. theory** **Hrs. lab**
Sub-unit 1.11: Glaucoma	**Hrs. theory 3 Hrs. lab 2**
Objectives:	Content:
1. Define glaucoma. 2. Mention the incidence, causes and pathology of glaucoma. 3. Discuss the complication of glaucoma. 4. Describe the recommended treatments. 5. Discuss ways to achieve early detection of glaucoma. 6. Discuss the Health Post Incharge can provide glaucoma screening for the community.	1. Etiology, pathology, clinical features, complications, treatment and prevention of glaucoma. 2. History taking and clinical examination of client of glaucoma. 3. Indications for referral.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Ophthalmology	**Hrs. theory** **Hrs. lab**
Sub-unit 1.12: Pterygium	**Hrs. theory 3 Hrs. lab 2**
Objectives:	Content:
1. Define Pterygium. 2. Describe the incidence, etiology, clinical features and management of pterygium. 3. Identify indications for referral.	1. Incidence, etiology, clinical features and treatment of pterygium. 2. History taking and clinical examination of client of pterygium. 3. Indications for referral.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts

Unit 1: Ophthalmology	**Hrs. theory** **Hrs. lab**
Sub-unit 1.13: Refractive errors	**Hrs. theory 3 Hrs. lab 2**
Objectives:	Content:
1. Define and types of refractive errors. 2. Identify the clinical features of refractive errors. 3. Discuss the complications of non-treatment of refractive errors. 4. Describe appropriate management for refractive errors. 5. Describe community screening measures for visual examinations.	1. Definition and types of refractive errors: • Myopia • Hypermetropia • Astigmatism. 2. Clinical features, complications, management and prevention. 3. History taking and clinical examination of client of refractive errors: Myopia/ Hypermetropia/ Astigmatism 4. Indications for referral. 5. Community screening measures for refractive errors.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts
Unit 1: Ophthalmology	**Hrs. theory** **Hrs. lab**
Sub-unit 1.14: Removal of foreign body in the eye	**Hrs. theory 5 Hrs. lab 2**
Objectives: Students will be able to	Content:
1. Describe the types of foreign body in the conjunctiva of the eye. 2. Describe how to remove a foreign body from the conjunctiva over the sclera, beneath the lower lid or upper lid. 3. Explain why the health post incharge should refer cases of foreign body on the pupil or when the eyeball has been penetrated. 4. Describe how to rinse the eye when chemical trauma has occurred. 5. Discuss measures for protecting the eye from injury by wearing protective eyewear.	1. Principles and procedures for removal of foreign body. 2. Irrigation of the eye following chemical trauma. 3. Preventive health education of eye. 4. History taking and clinical examination of client of foreign body in the eye. 5. Indications for referral. 6. Measures for protecting the eye from injury by wearing protective eyewear.
Evaluation methods: written and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and demonstration, return demonstration, models, charts

Course: Epidemiology and Community Diagnosis

Hours Theory: 100
Hours Practical: 40
Assessment Marks: 100 (Theory 80 + Practical 20)

Course Description:
This foundational course of community health practice is designed to develop the competencies and attitudes for application of epidemiological principles in community health diagnosis and health care practices.

Course Objectives
On completion of the course the student will be able to:
1. Describe disease causation and modes of transmission, identifying the agent, host, and environmental factors, as the basis for environmental health of the community.
2. Use epidemiology to identify health problems of the community.
3. Investigate and manage an epidemic outbreak in the community.
4. Conduct a community diagnosis.
5. Describe the various health practices among the diverse ethnic groups of Nepal.

Reference Texts:

1. Park, K. Park's Textbook of Preventive and Social Medicine. M/S BanarasidasBhanot, Jabalpur, India. Current edition.
2. Parker, D.J.P., Practical Epidemiology. ELBS Publications. Current edition.
3. Essential Preventive Medicine, by O.P. Ghai, Piyush Gupta. Vikas Publishing House, India. Current edition.
4. Basic Epidemiology. WHO publication.

Course: Epidemiology & Community Diagnosis	**Hrs. theory 100 Hrs. lab 40**
Unit 1: Basic Epidemiology	**Hrs. theory 50 Hrs. lab**
Sub-unit 1.1: Concepts of Disease	**Hrs. theory 12 Hrs. lab**
Objectives:	Content:
1. Define the term disease (simple concept of disease) and give examples. 2. Describe the spectrum of disease, using examples. 3. Explain what is meant by the "iceberg phenomenon" of disease. 4. Explain the concepts of disease causation. 5. Describe risk factors and risk groups. 6. Explain in brief the natural history of disease. 7. State in brief concept of disease control, elimination, eradications & surveillance. 8. List the names of diseases/health problems that are under the control, elimination, eradication and surveillance of current health program in Nepal. 9. Describe epidemiological traid and its related factors.	1. Definition with example: infection and infectious disease, epidemic, endemic, sporadic, pandemic, exotic, opportunistic infection, source of infection, reservoir of infection, iatrogenic infection,rate, ratio andproportion, surveillance, control, eradication, elimination. 2. Concepts of disease causation a. Germ theory b. Epidemiological triad c. Multifactorial causation d. Web of causation 3. Definition of risk factors & risk groups. a. Illustrate risk factors & risk groups in relation with particular diseases. 4. Natural history of disease 5. Concept of risk factors and risks groups. 6. Epidemiological triad - Agent - Host - Environment
Evaluation methods: Written examination, Performance observation, oral test.	Teaching / Learning Activities: Demonstration and practice in handling of microscope.
Unit 1: Basic Epidemiology	**Hrs. theory Hrs. lab**
Sub-unit 1.2: Concepts and method of epidemiology	**Hrs. theory 12 Hrs. lab**
Objectives:	Content:
1. Explain the concept of epidemiology. 2. List the scope of epidemiology 3. State purpose/aim of epidemiology. 4. Describe the tools (rate, ratio, proportion) and common measurements (eg. mortality, morbidity, disability, determinants of health i.e. health related factors) used in an epidemiological study. 5. Descriptive epidemiology:- i) Explain what is meant by a descriptive epidemological study. ii) Describe the common characteristics/attributes examined in descriptive epidemiology. iii) Give at least one example of a disease/health problem related to such attributes. iv) State the uses of descriptive epidemiology.	1. Purpose and function of epidemiology. 2. Methods of epidemiological measurements. 3. Principles purposes and methodology of descriptive epidemiology. 4. Common characteristics and attributes of descriptive epidemiology: time, place & person distribution. 5. Principles, purposes and methodologies of screening.
Evaluation methods: Written examination, Performance observation, oral test.	Teaching / Learning Activities: Demonstration and practice in handling of microscope.

Unit 1: Basic Epidemiology	**Hrs. theory** **Hrs. lab**
Sub-unit 1.3: Screening for diseases	**Hrs. theory 7 Hrs. lab**
Objectives:	Content:
1. Define the concept of screening. 2. List the pre-requisites of a screening test. 3. List the names of common diseases, target populations and tests used for screening.	1. Concept of screening. 2. Pre-requisites/Criteria for screening - Disease to be screened - Test to be applied 3. Names of common diseases, target populations and tests to be applied for screening.
Evaluation methods: Written examination, Performance observation, oral test.	Teaching / Learning Activities: Demonstration and practice in handling of microscope.
Course: Epidemiology & Community Diagnosis	**Hrs. theory** **Hrs. lab**
Unit 1: Basic Epidemiology	**Hrs. theory** **Hrs. lab**
Sub-unit 1.4: Infections disease epidemiology	**Hrs. theory 12 Hrs. lab**
Objectives:	Content:
1. Explain the principles and applications of the chain of infection. 2. Describe application of concepts of infectious disease study. 3. Discuss principles and methodology of the prevention of infectious diseases.	1. Dynamics of disease transmission. i) Outline the transmission cycle of disease (chain of infection) ii) Describe the term "reservoir" in terms of human reservoir in non-living things. iii) Differentiate between direct and indirect modes of transmission; give examples of diseases for each. iv) Explain the terms "incubation period" and "period of communicability" in relation to a susceptible host. v) Identify the incubation period and communicable period of common diseases. 2. Infectious disease prevention and control: i) Describe methods for controlling the reservoir, interruption of transmission and protecting the susceptible host. ii) Discuss each method of control with relationship to a specific disease.
Unit 1: Basic Epidemiology	**Hrs. theory 50 Hrs. lab**
Sub-unit 1.5: Investigation and management of an epidemic	**Hrs. theory 7 Hrs. lab**
Objectives:	Content:
1. Describe the characteristic features of different types of infectious disease epidemics. 2. Describe in brief the steps/process of investigation and management of an infectious disease epidemic. 3. Use an example to illustrate the process of investigation and management of an infectious disease epidemic.	1. Characteristics of infectious disease epidemics. 2. Investigation and management of infectious disease epidemics.
Evaluation methods: Written examination, Performance observation, oral test	Teaching / Learning Activities: Demonstration and practice in handling of microscope

Unit 2: Culture and Health	**Hrs. theory 20 Hrs. lab**
Sub-unit 2.1: Concepts of culture and health	**Hrs. theory 8 Hrs. lab**
Objectives:	Content:
1. Define culture. 2. List the cultural characteristics and give an example for each. 3. Illustrate examples of elements of culture and their effects on health.	1. Definitions and meanings of the term culture. 2. Elements of culture a. beliefs b. norms c. taboos d. traditions e. customs f. superstitions g. religious practices h. social boundaries 3. Relationship between health, illness, behavior and culture.
Evaluation methods: written exams and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and discussion, models, charts, textbook self-study
Unit 2: Culture & Health	**Hrs. theory 20 Hrs. lab**
Sub-unit 2.2: Culture of ethnic groups in Nepal	**Hrs. theory 6 Hrs. lab**
Objectives:	Content:
1. List the main ethnic groups of Nepal and describe the chief cultural habits of each. 2. Identify the geographical sites where each ethnic group is prevalent. 3. Identify and evaluate traditional medical practices in Nepal.	1. Definition of ethnic group. 2. Ethnic groups living in Nepal and their main cultural features. 3. Traditional medical practices in Nepal.
Evaluation methods: written exams and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and discussion, models, charts, textbook self-study
Unit 2: Culture & Health	**Hrs. theory 20 Hrs. lab**
Sub-unit 2.3: Effects of culture on health	**Hrs. theory 6 Hrs. lab**
Objectives:	Content:
1. For selected ethnic groups, discuss how cultural habits affect the health of that population; discuss both positive and negative aspects. 2. Discuss the possible origins of cultural beliefs, such as the belief that cow dung purifies, that saliva is unclean, that milk should not be taken during pregnancy. 3. Discuss the scientific principles related to these beliefs.	1. Nepalese cultural practices and their effects on health: a. personal hygiene b. food selections c. preparation and storage of food d. food taboos e. sexual taboos 2. Diseases: causes, precautions and patient care.
Evaluation methods: written exams and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and discussion, models, charts, textbook self-study

Unit 3: Community Diagnosis	**Hrs. theory 30 Hrs. lab**
Sub-unit 3.1: Introduction to Community Diagnosis	**Hrs. theory 6 Hrs. lab**
Objectives:	Content:
1. Define community diagnosis. 2. Describe the benefits of using the community diagnosis process. 3. Explain the objectives of performing a community diagnosis. 4. Identify the steps of the community diagnosis process. 5. Describe the components of a community diagnosis, using a realistic example. 6. Differentiate between community diagnosis and clinical diagnosis.	1. Definition, aims and benefits of the community diagnosis process. 2. Steps of the community diagnosis process: a. Preparation of tools, techniques and work plan. b. Pre-testing of instruments c. Rapport building d. Data collection e. Data processing, analysis, interpretation f. Community presentation g. Planning and implementation of the Managed Health Project (MHP) h. Evaluation 3. Components of community diagnosis a. Demographic characteristics b. Social, economic and geographic characteristics c. Environmental health and sanitation d. Knowledge, attitude and practice (KAP) on health and health issue e. Maternal and child health f. Morbidity and disability g. Availability of health services and its utilization. h. Community resources i. Community leaders j. Culture and tradition 4. Differences between community diagnosis and clinical diagnosis.
Evaluation methods: written exams and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and discussion, models, charts, textbook self-study
Unit 3: Community Diagnosis	**Hrs. theory 30 Hrs. lab**
Sub-unit 3.2: Data collection	Hrs. theory 6 Hrs. lab
Objectives:	Content:
1. Differentiate between primary and secondary data and their sources. 2. Give examples of primary and secondary sources. 3. Differentiate between quantitative and qualitative data, using examples. 4. Identify the purposes of census and sample surveys. 5. List sampling methods and explain the significance of sample size. 6. Describe methods of sampling. 7. Prepare, pre-test and rewrite a survey instrument.	1. Functions and characteristics of primary and secondary data. 2. Functions and characteristics of qualitative and quantitative data. 3. Purposes and characteristics of census and sample surveys. 4. methods of sampling: a. Probability Sampling - - simple random sampling - systematic (random) sampling - stratified sampling - cluster sampling - multistage sampling

	b. Non-probability sampling 5. Methods of data collection: a. use of questionnaire b. observation with check list c. interview d. focal group discussion e. Participatory Rural Appraisal (PRA) f. Rapid Rural Appraisal (RRA) 6. Ethical issues in community diagnosis
Evaluation methods: written exams and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and discussion, models, charts, textbook self-study
Unit 3: Community Diagnosis	**Hrs. theory 30 Hrs. lab**
Sub-unit 3.3: Data processing	**Hrs. theory 3 Hrs. lab**
Objectives:	Content:
1. Explain each step of data processing. 2. Apply data processing to a community diagnosis project in your field practice.	1. Application of data processing steps: a. data editing b. data coding c. data tabulation d. data analysis and interpretation e. data presentation
Evaluation methods: written exams and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and discussion, models, charts, textbook self-study
Unit 3: Community Diagnosis	**Hrs. theory 30 Hrs. lab**
Sub-unit 3.4: Community presentation	**Hrs. theory 3 Hrs. lab 2**
Objectives:	Content:
1. Explain the aims and goals of the community presentation of a community diagnosis. 2. Conduct a community presentation. 3. Identify the steps of a community presentation.	1. Important functions of a community presentation: a. to inform b. to motivate for action c. to involve community members 2. Steps of community presentation.
Evaluation methods: written exams and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and discussion, models, charts, textbook self-study
Unit 3: Community Diagnosis	**Hrs. theory 30 Hrs. lab**
Sub-unit 3.5: Micro Health Project	**Hrs. theory 6 Hrs. lab**
Objectives:	Content:
1. List the three types of community health needs and give examples of each. 2. Describe how to prioritize the various health needs of a community. 3. Explain the concept of micro health project (MHP). 4. Plan, implement and evaluate a micro health project in your field practice.	1. Health needs assessment: a. felt health needs b. observed health needs c. real health needs 2. Principles of needs assessment 3. Introductions of a micro health project. 4. Steps of a MHP: a. planning of the MHP b. implementation of the MHP c. evaluation of the MHP
Evaluation methods: written exams and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and discussion, models, charts, textbook self-study

Unit 3: Community Diagnosis	**Hrs. theory 30 Hrs. lab**
Sub-unit 3.6: Report writing	**Hrs. theory 6 Hrs. lab 1**
Objectives:	Content:
1. Explain the aims and benefits of project reports. 2. Describe the components of a project report. 3. Prepare a project report based on findings.	1. Important benefits of report writing. 2. Components of project report writing: a. title/title page b. acknowledgement c. preface/forward d. abstract/summary e. contents f. map (study area) g. project summary: - introduction - findings and discussion - conclusion and recommendations h. references / bibliography i. annex
Evaluation methods: written exams and viva exams, performance observation in real or simulated settings.	Teaching / Learning Activities/Resources: classroom instruction and discussion, models, charts, textbook self-study
Practical Tasks: At least following task needs to be performed.	**(About 4 hrs per task) = 40 hrs.**
1. Sketch a diagram showing Spectrum of health and disease 2. Sketch a diagram showing Ice berg phenomenon of Diseases 3. Sketch a diagram showing natural history of disease 4. Calculate different epidemiological indicators 5. Calculate sensitivity and specificity of a screening test 6. Prepare a Social map by visiting a community 7. Perform at least three home visits and fill up the community diagnosis tools 8. Proceed the data processing steps in group settings 9. Prepare at least five dummy table by using filled up tools 10. Prepare at least five frequency table by using filled up forms 11. Prepare pie charts and Bar charts by using computer **12.** List any five cultural practices of own ethnic group having health impact.	

Course: **Health Management**
Hours Theory: **100**
Hours Practical: **40**
Assessment Marks: **100**

Course Description:
This course introduces the student to concepts about management of health care services, as it applies to the operations of a Health Post or Primary Health Care Center. This course teaches about the health care system in Nepal, fundamental principles of management, national health policy and health programmes, health manpower in Nepal, health related organizations and agencies, logistics management, leadership and personnel management, health issues and professional practice. The student will acquire the necessary knowledge and skill to deal effectively with the diverse challenges of health service management.

Course Objectives:
On completion of the course the student will be able to:

1. Identify health care systems in Nepal.
2. Explain the theories, principles and components of health management.
3. Describe the national health policy, tell its philosophy, and identify its strengths and weaknesses.
4. Explain various health programmes of the Department of Health Services.
5. Apply the principles of logistics management and quality assurance to health post management.
6. Apply the principles of supervision and leadership to management of Health Post staff.
7. Manage a health post in the real setting.
8. Identify the different levels of health manpower in Nepal and describe the functions of the Health Manpower Development Institute.
9. Explain the goals and functions of the health related governmental organizations, non-governmental organizations (NGO's), international non-governmental organizations (INGO's) and international agencies which serve in Nepal.
10. Identify current national and international health issues.
11. Explain the code of ethics of the Health Assistant.

Recommended Texts:

1. Macmohan, R. et al. On Being In Charge, A guide to Management in Primary Health Care.WHO.Current edition.
2. Dixit, H.The Quest for Health. Educational Enterprise, (P) Ltd., Kathmandu. 1999.
3. Pradhananga, Y. Health Management. Council for Technical Education and Vocational Training, Bhaktapur, Nepal.2055B.S.-
4. Kamala, T. &Bishnu, R. Leadership and Management for Nurses. Health Learning Materials Centre, TribuvanUniversity, Kathmandu. 1990
5. Sapkota, Shiba Prasad, Health Management and Community Health, Vidhyarthee Pustak Prakasan, Bhotahity

Reference Texts:

1. Shrestha, B.M. Basic Principles of Management, Akshyulak Publication, Nepal. 2039B.S.
2. Modern Management Methods and the Organization of Health Services, Public Health Papers #55.WHO. 1974.
3. Inventory Control and Basic Logistics Procedure Manual on Store Management for PHC/HP and SHP Personnel. HMG/JSI.2054B.S.
4. Park, K. Textbook of Preventive and Social Medicine, Bhandrasidas Bhanot, Jabalpur, India. 2000.
5. Health Logistics Procedure Manual, NHTC/LMD/USAID JSI, Nepal 2057.
6. Health Statistics and EPI Cold Chain Management Procedure Manual, NHTC/LMD/USAID JSI, Nepal 2057.

Course: Health Management	**Hrs. theory**	**Hrs. lab**
Unit 1: Health care system in Nepal	**Hrs. theory 4**	**Hrs. lab**
Sub-unit:	**Hrs. theory 4**	**Hrs. lab**
Objectives:	Content:	
1. Define "health care system" and tell the purpose and characteristics of a health care system. 2. Describe the history of the development of health services in Nepal. 3. Describe ayurvedic, homeopathic and allopathic approaches to health care. 4. Identify situations when the most appropriate type of treatment might be ayurvedic care, homeopathic care, allopathic care, or a combination of these.	1. The definition, characteristics, and purpose of a health care system. 2. History of health system in Nepal. 3. Health care approaches: • Ayurvedic • Homeopathic • Allopathic • Naturopathy, Occupuncture 4. Philosophy, origin, strengths and weaknesses of these health care approaches.	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: textbook self-study - "On Being in Charge," classroom instruction	
Unit 2: Fundamentals of Health Management	**Hrs. theory 26**	**Hrs. lab**
Sub-unit 2.1: Introduction to Health Management	**Hrs. theory 2**	**Hrs. lab**
Objectives:	Content:	
1. Define management and health management 2. Differentiate between management & administration. 3. Describe the function of management.	1. The definitions of management & health management. 2. Principles of management. 3. Concepts of management versus administration. 4. Function of management in the Health Post context.	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: textbook self-study - "On Being in Charge," - Instructor led discussion, reference study assignment	

Unit 2: Fundamentals of Health Management	**Hrs. theory**	**Hrs. lab**
Sub-unit 2.2: Planning of Health service	**Hrs. theory 3**	**Hrs. lab**
Objectives:	Content:	
1. Describe the process and purpose of planning. 2. Describe different types of planning. 3. Explain the planning cycle. 4. Describe the steps of planning. 5. Explain the health planning system in Nepal.	1. Definition of planning. 2. Types of planning. 3. Planning cycle (PIE cycle) 4. Planning steps. 5. Current health planning system of Nepal.	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: textbook self-study - "On Being in Charge," classroom instruction	
Unit 2: Fundamentals of Health Management	**Hrs. theory**	**Hrs. lab**
Sub-unit 2.3: Organizing of Health Service	**Hrs. theory 3**	**Hrs. lab**
Objectives:	Content:	
1. Describe the process and purpose of organization. 2. Identify different types of health service organizations.	1. Definition of organization. 2. Types of organizations and their organograms. 3. Organograms of MoH, DoHS, PHCC, HP.	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: textbook self-study - "On Being in Charge," Classroom instruction, field visit	
Unit 2: Fundamentals of Health Management	**Hrs. theory**	**Hrs. lab**
Sub-unit 2.4: Principles of leadership	**Hrs. theory 3**	**Hrs. lab**
Objectives:	Content:	
1. Discuss the characteristics and advantages/disadvantages of each of the leadership styles: - autocratic - democratic - laissez faire 2. Explain why an autocratic leadership style has historically been most commonly used in Nepal. 3. Discuss ways that the Health Post Manager builds mutual respect and trust with the health post staff. 4. Describe characteristics and remedies for low motivation of workers. 5. Apply the theories of change to a situation of high absenteeism among health post staff. 6. Discuss the importance of having written policy for health post staff.	1. Characteristics, benefits and disadvantages of styles of leadership, circumstances when each style is most appropriate. 2. Relationship between chosen leadership styles and cultural history (feudalism, recent development of representative government) 3. Responsibility of the leader as role model; ways to demonstrate consistency, transparency, integrity and fairness. 4. Characteristics and remedies for low motivation of workers. 5. Principles of management by policy.	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: textbook self-study - "On Being in Charge," Classroom instruction, discussion, field visit	
Unit 2: Fundamentals of Health Management	**Hrs. theory**	**Hrs. lab**
Sub-unit 2.5: Staffing	**Hrs. theory 2**	**Hrs. lab**
Objectives:	Content:	
1. Define staffing and state the purpose of using a job description. 2. Identify the elements of a job description. 3. Identify the staffing patterns of different health institutions Nepal	1. Definition and purpose of staffing. 2. Essential elements of a job description. 3. Staffing patterns of a Primary Health Care Center and Health Post.	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: textbook self-study - "On Being in Charge," Classroom instruction, field visit	

Unit 2: Fundamentals of Health Management	**Hrs. theory**	**Hrs. lab**
Sub-unit 2.6: Directing	**Hrs. theory 2**	**Hrs. lab**
Objectives:	Content:	
1. Describe the meaning and purpose of directing. 2. Mention the ways of directing.	1. Definition of directing. 2. Purpose of directing. 3. Ways of directing.	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: textbook self-study - "On Being in Charge," Classroom instruction, field visit	
Unit 2: Fundamentals of Health Management	**Hrs. theory**	**Hrs. lab**
Sub-unit 2.7: Supervision	**Hrs. theory 3**	**Hrs. lab**
Objectives:	Content:	
1. Describe the purpose and methods of supervision. 2. Explainthe quality of a good supervisor. 3. Describe the techniques of supervision. 4. Explain the purpose and tools of monitoring. 5. Describe the process of monitoring.	1. Supervision: definition, purpose, importance, techniques and tools 2. Quality of a good supervisor 3. Monitoring: definition, purpose, importance, process and tools	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: textbook self-study - "On Being in Charge", Classroom instruction, field visit	
Unit 2: Fundamentals of Health Management	**Hrs. theory**	**Hrs. lab**
Sub-unit 2.8: Coordination	**Hrs. theory 2**	**Hrs. lab**
Objectives:	Content:	
1. Define coordination in terms of health management. 2. Identify different types of coordination. 3. Identify the techniques and processes of coordination. 4. Explain the types of coordination to be used at the Health Post level.	1. Definition of coordination. 2. Types of coordination - External and internal - Horizontal and vertical 3. Techniques and processes of coordination. 4. Selecting styles of coordination in Health Post level.	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: textbook self-study - "On Being in Charge," Classroom instruction, field visit	
Unit 2: Fundamentals of Health Management	**Hrs. theory**	**Hrs. lab**
Sub-unit 2.9: Disaster coordination	**Hrs. theory 4**	**Hrs. lab**
Objectives:	Content:	
1. Discuss historical events and potential for future disasters from these causes: earthquake, flooding, nuclear explosion. 2. Identify the health risks created by each of these disasters. 3. Describe the policies and procedures developed by the earthquake preparedness committee in Kathmandu. 4. Identify the major points of the national guidelines for disaster management. 5. Identify the civil organizations of a community for preserving community welfare in a disaster situation. 6. Describe the role of the health post manager in coordinating a disaster preparedness response.	1. Historical events and potential for future disasters from earthquakes, flooding and nuclear explosion. 2. Definition, concepts and types of disasters. 3. Risks to public health created by these disasters. 4. National activities for earthquake, landslide, wildfire storms. preparedness. 5. Disaster management cycle. 6. National guidelines for the management of major disasters. 7. Coordination of community resources and leadership responsibility for disaster management. 8. Structure and responsibility of District Disaster Coordination Committee 9. Composition, role and mobilization mechanism of Rapid response team in	

	disaster preparedness and response activities.	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: textbook self-study - "On Being in Charge," Classroom instruction, field visit	
Unit 2: Fundamentals of Health Management	**Hrs. Theory**	**Hrs. Lab**
Sub-unit 2.10: Reporting	**Hrs. Theory 1**	**Hrs. Lab**
Objectives:	Content:	
1. Discuss the purpose of health post reporting. 2. Describe the qualities of an effective Health Post report. 3. Prepare a simulated health post report from a case example.	1. Definition and purpose of reporting. 2. Types of report 3. Characteristics of reporting: complete, accurate, sequential, timely and understandable.	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: textbook self-study - "On Being in Charge," Classroom instruction, field visit	
Unit 2: Fundamentals of Health Management	**Hrs. theory**	**Hrs. lab**
Sub-unit 2.11: Budgeting and Financial Management	**Hrs. theory 1**	**Hrs. lab**
Objectives:	Content:	
1. Define budget and budgeting. 2. Mention the functions of budget. 3. Discuss the purpose for using a budget in health management. 4. Identify and compare different types of budgets. 5. Discuss the components of budget sheet.	1. Budgeting: Definition and functions 2. Types of budgets (capital and recurrent) and characteristics of various budgets. 3. Components of budget sheet 4. Tools for financial management (Voucher, ledger, daybook, audit)	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: classroom instruction, textbook self-study - "On Being in Charge,"	
Unit 3: Health Post Management	**Hrs. theory 25**	**Hrs. lab**
Sub-unit 3.1: Training	**Hrs. theory 3**	**Hrs. lab 2**
Objectives:	Content:	
1. State the purpose and definition of training. 2. Describe different types of training and tell the advantages and disadvantages of each. 3. Explain the process for assessing the need for training. 4. Describe planning, conduction & evaluation of the training program of subordinate & volunteers	1. Definition of training. 2. Different types of training. 3. Training Need Assessment (TNA). 4. Training plan, training conduction & training evaluation.	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: textbook self-study - "On Being in Charge," Classroom instruction, field visit	
Unit 3: Health post Management	**Hrs. theory**	**Hrs. lab**
Sub-unit 3.2: Conduct staff meeting	**Hrs. theory 2**	**Hrs. lab 0**
Objectives:	Content:	
1. Identify the need for a meeting. 2. Describe planning and organizing for an effective meeting.	1. Importance of maintaining good communication through meetings. 2. Planning and organizing a meeting.	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: textbook self-study - "On Being in Charge," Samples of meeting minutes/invitation letters, practice writing minutes from a simulated meeting Classroom instruction, Demonstration / Practicum	

Unit 3: Health post Management	**Hrs. theory**	**Hrs. lab**
Sub-unit 3.3: Logistic Management	**Hrs. theory 4**	**Hrs. lab**
Objectives:	Content:	
1. Explain the purpose of logistics management. 1. Describe the Logistic Management Information System (LMIS) practice in Nepal. 2. Describe the "six rights" of logistic management. 3. Explain logistic cycle. 4. Describe the procedure for using the various records and forms of the LMIS.	1. Definition and function of logistic management. 2. Components and procedures of Nepal's LMIS. 3. Six" rights of logistic management. 4. Logistic cycle (Serving customer, product selection forecasting and procurement and inventory management). 5. Procedures for LMIS forms and records use (Auditor General Form (AGF)# 45, 46, 47, 48, 49, 50, 51, 52 & 57).	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: Classroom instruction, group discussion, Resources: booklets for process of filling logistics related forms, actual logistic forms.	
Unit 3: Health post Management	**Hrs. theory**	**Hrs. lab**
Sub-unit 3.4: Inventory management	**Hrs. theory 4 Hrs. lab 1**	
1. Describe the purpose and process of physical inventory. 2. Differentiate between expendable and non-expendable goods. 3. Define storage and store standard. 4. Describe the procedure for Cold Chain storage of medical supplies. 5. Discuss the essential data of logistics information. 6. Describe the process of calculating and demanding items, for both regular and emergency needs. 7. Describe the process of distributing commodities.	1. Inventory goals and procedures. 2. Classifications of materials. 3. Specialized storage treatment for vaccines, essential drugs, contraceptives, equipment/instruments. 4. Essential data concepts: a. Maximum/minimum stock levels b. Authorized stock level and emergency order point c. Lead time stocking d. Losses/adjustments 5. Emergency and regular calculation and procurement of commodities. 6. Procedures for distribution of commodities.	
Examination methods: written exams (short answer questions	Teaching / Learning Activities: Classroom instruction, discussion, Acts and Regulations related to financial and administrative matters.	
Unit 3: Health post Management	**Hrs. theory**	**Hrs. lab**
Sub-unit 3.5: Quality assurance	**Hrs. theory 6**	**Hrs. lab 2**
Objectives:	Content:	
1. Compare different definitions of quality health care. 2. Identify reasons for using the quality assurance (QA) program. 3. Identify the chief characteristics of a quality assurance program. 4. Define the term "standards" and give examples of health care standards. 5. List the ways that standards help to close the gap between actual performance and desired outcomes. 6. Give examples of ways to reduce the costs caused by poor quality health care. 7. Give examples of ways to improve patient satisfaction with services.	1. Components and concepts of quality health care. 2. Rationale for quality assurance implementation. 3. Characteristics of quality at the health post: a. technical competence b. effective service c. efficient service d. accessible site e. good interpersonal relationships f. continuity ofservices g. safe environment h. pleasant environment	

8. List the 4 "focus areas" of quality assurance principles. 9. Explain why the process of quality assurance is viewed as a cycle. 10. Use the methods and principles of QA to identify and plan a solution to a real health care problem.	i. team approach 4. Using standards to improve service: a. Write standards(performance rules/measurements) for quality health care. b. Communicate these standards to all workers. c. Plan ways to regularly check if standards are being met. d. Identify and solve the problems that interfere with "high standard quality." 5. The focus of quality assurance principles: a. focus on patient/staff needs b. focus on how things are done (process/systems) – do not blame the individual. c. focus on facts (don't make assumptions or guesses). d. Focus on team approach to problem solving. 6. The cycle of quality improvement.
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: textbook self-study - "On Being in Charge," Classroom instruction, group discussion, practice exercises.
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: textbook self-study - "On Being in Charge," Classroom instruction, practice
Unit 3: Health post Management	**Hrs. theory** **Hrs. lab**
Sub-unit 3.6: Time Management	**Hrs. theory 1** **Hrs. lab 2**
Objectives:	Content:
1. Describe how to compute staff work load. 2. Prepare a timetable of health unit activities. - Weekly - Monthly - Quarterly - Yearly	1. Concept of time management. 2. Tools of time management with example.
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: textbook self-study - "On Being in Charge," Classroom instruction, Practicum, visit institution, Classroom practice.
Unit 3: Health post Management	**Hrs. theory** **Hrs. lab**
Sub-unit 3.7: Health Management Information System (HMIS)	**Hrs. theory 5** **Hrs. lab 2**
Objectives:	Content:
1. Explain the purpose of the MIS and HMIS. 2. Identify the important benefits of this system. 3. Describe process of HMIS 4. Explain the use of the different types of HMIS forms. 5. Describe the use of the HMIS records and reports. 6. Demonstrate how to prepare monthly, quarterly, and annual HMIS reports.	1. Function and purpose of MIS and HMIS. 2. importance of HMIS 3. The Process of HMIS with example of national system. 4. Application of the HMIS forms. 5. Differences between types of records and reports. 6. Monthly, quarterly & annual health reporting system (Female Community Health Volunteer to

	Ministry of Health level).	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: Text book self-study, Classroom instruction, classroom practice, field visit to relevant health institutions	
Unit 4: Health related organization	**Hrs. theory**	**Hrs. lab**
Sub-unit 4.1: International Non-Governmental Organizations (INGO's)	**Hrs. theory 5**	**Hrs. lab**
Objectives:	Content:	
1. Mention the names of multilateral, bilateral, INGOs and NGOs activating in the health sector of Nepal	1. Concept of NGOs, INGOs, Bilateral and Multilateral organization.	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: Classroom instruction, filed visit to concerned organization	
Unit 5: National Health Policy and Health Programs	**Hrs. theory**	**Hrs. lab**
Sub-unit 5.1: National Health Policy and Plan	**Hrs. theory 5**	**Hrs. lab**
Objectives:	Content:	
1. Describe the components of National Health Policy 2070. 2. Describe the current periodic plan. 3. Describe health profile of Nepal according to the latest Nepal Demographic and Health Survey.	1. National Health Policy 2070 (Objective, targets and components). 2. Current periodic (three/five-year) plan (targets and area covered). 3. Health profile of Nepal according to the latest Nepal Demographic and Health Survey	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: Classroom instruction, field visit, annual report of DOHS	
Sub-unit 5.2: Priority Health Programmes	**Hrs. theory 15**	**Hrs. lab4**
Objectives:	Content:	
1. Identify the objectives, targets and activities of national health programmes.	1. Objectives, targets and activities (to be carried out at health post level) of National health programs including: a. Child health Program - Immunization - CB-IMNCI - Nutrition Program b. Family Health Program - Safe Motherhood - Family Planning - Adolescent Sexual and Reproductive Health (ASRH) c. Disease Control - Malaria - Kalaazar - Dengue - Tuberculosis - HIV/AIDS d. Supportive Programs - National Health Education, Information and communication(NHEICC) 2. Introduction of FCHV and PHC/ORC (Primary Health Care/Outreach Clinic) program	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: Text book self-study "On being in charge," classroom instruction, field visit to selected divisions of D.H.S., DOHS annual report, National Planning System in Health Section.	

Unit 6: Health Manpower in Nepal	**Hrs. theory**	**Hrs. lab**
Sub-unit 6.1: Development of Human Resources in Health (HRH) in Nepal	**Hrs. theory 5**	**Hrs. lab**
Objectives:	Content:	
1. Mention the institutions involved in HRH Development in Nepal. 2. Discuss the formation and responsibilities of Nepal Health Professional Council(NHPC)	1. Various institution involved in HRH development like, • TribhuvanUniversity: Institute of Medicine • Council for Technical Education and Vocational Training (CTEVT) • KathmanduUniversity • B.P. Koirala Institute for Health Sciences • NationalHealthTrainingCenter (NHTC) • PokharaUniversity • PurvanchalUniversity • National Academy of Medical Sciences (NAMS) • PatanAcademy Of Health Science 2. formation and responsibilities of Nepal Health Professional Council(NHPC)	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: Classroom instruction, relevant literature and brochures of concerned institutions, field visit to selected divisions of D.H.S.	
Unit 6: Health Manpower in Nepal	**Hrs. theory**	**Hrs. lab**
Sub-unit 6.2: Human Resources for Health (HRH)	**Hrs. theory 5**	**Hrs. lab**
Objectives:	Content:	
1. Identify the different existing HRH in Nepal. 2. State the job description of Health PostIncharge	1. HRH positions in Nepal: Medical Doctor, Public Health Worker, Health Assistant, OpthalmicAssiatant, Staff Nurse, Auxiliary Nurse Midwife, Auxiliary Health Worker, Lab Technologist, Radiographer,Pharmacy Assistant and Pharmacist. 2. Job description of Health PostIncharge	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: classroom instruction, field visit.	
Unit 7: Health Issues and Professional Practice	**Hrs. theory**	**Hrs. lab**
Sub-unit 7.1: Entrepreneurship	**Hrs. theory 5**	**Hrs. lab**
Objectives:	Content:	
1. Discuss the concept of entrepreneurship. 2. Discuss how the community and Health Post might benefit if the Health Post Manager began a private profit making business in addition to his role as Health Post manager. 3. List types of businesses a Health Post Manager might operate. 4. Identify the potential opportunities for unethical actions to occur when the Health Post Manager works simultaneously at two jobs. 5. Discuss ways to prevent unethical occurrences by the Health Post Manager/entrepreneur.	1. Goals and process of small business establishment and management. 2. Complimentary goals of small business and community welfare. 3. Business opportunities which meet community needs. 4. Ethical considerations of entrepreneurship and Health Post Manager role. 5. Principles for moral examination to avoid conflict of interest situations	
Examination methods: written exams (short answer questions)	Teaching / Learning Activities: textbook self-study - "On Being in Charge", Classroom instruction, field visit	

Unit 8: Professional Councils	**Th. Hrs 5**
Objectives: Students will be able to	Contents
1. List the professional council in health sector 2. Mention the role of NHPC 3. Explain the function of NHPC	1. List different professional councils in health sector 2. Establishment and Formation of NHPC 3. Explain the objectives, role and function of NHPC 4. 4.describe professional ethics and Code of conduct of a Health Assistant
Practical Tasks: Students will perform at least following performance in class room settings.	**40 hours (3-4 hr per task)**
1. Conduct meeting and write a minute in simulative situation 2. Write an official letter (invitation, demand for commodity, leave and submission letter). 3. Prepare a duty roster 4. Prepare a weekly/monthly report of HP 5. Prepare the tools for supervision, 6. Prepare a monitoring tool 7. Prepare a evaluation tool 8. Demonstrate journal voucher 9. Prepare simple budget sheet 10. Prepare a sample job description 11. Make a goods register(JinsiKhata) 12. Formation of Health Facility Operation and Management Committee. 13. Leave and process of having leave at HP level	

Third Year

Comprehensive Clinical Practicum

Sixteen weeks (96 days excluding Saturdays)

S. No.	Subject	Duration (days)
1	Emergency	9
2	Medicine	24
3	Surgery: ENT, Eye, General Surgery, Dental	24 (3+3+15+3)
4	Clinical Pathology (Observation) Lab	3
5	Pharmacy, Pharmacology (Dispensing)	3
6	Obs/Gyane and Maternity	9 (6 + 3)
7	Family Health (MCH,FP)	12 (6+6)
8	Basic Medical Procedures (Injection and dressing/minor OT)	9
9.	Physiotherapy	3

Clinical Objectives for Surgery - I & Medicine – I

A. History & Physical

1. Take history:
   a. establish trust with the patient/family
   b. elicit complete data related to chief complaint, social/personal/demographic data, immunization/diseases history.
2. Perform physical examination:
   a. vital signs per guidelines
   b. assess Jaundice, Anemia, Lymph node enlargement, Clubbing, Cyanosis, Oedema and Dehydration (JALCCOD)
   c. assess hydration status in all ages
   d. evaluate mental status/cognition/mood
   e. recognize normal/abnormal growth & development
   f. identify normal/abnormal conditions of the body systems through inspection, auscultation, percussion and palpation of heart and lungs, abdomen, nervous system, integumentary system, renal system, gastrointestinal system, circulatory system, lymphatic system, musculo-skeletal system
3. Use abstract reasoning to correlate the abnormal findings with provisional/differential diagnoses.
4. Identify the appropriate laboratory tests for confirming diagnoses.
5. Select appropriate response for conditions: treatment of simple conditions/ referral of complex cases.

Note: Minimum ten cases in each sub-topics and maintain records

B. Asepsis/Sterile Technique

1. Identify which activities require sterile or aseptic techniques.
2. Apply principles of asepsis/sterile technique when performing procedures that require this.
3. Sterilize instruments and other materials according to protocol.
4. Implement measures for control of contagious disease.

Note: Minimum ten cases in each sub-topics and maintain records

C. Wound Care

1. Clean, debride, drain wounds per protocol
2. Suture wounds and remove stitches
3. Apply various types of aseptic/sterile dressings, compresses, bandages

Note: Minimum ten cases in each sub-topics and maintain records

D. Invasive Procedures

1. Pass a feeding tube and administer tube feedings
2. Give various types of enemas
3. Safely administer medications via IM, IV, intradermal, subcutaneous routes
4. Draw blood for specimens
5. Start IV infusions

Note: Minimum five cases in each sub-topics and maintain scientific records)

E. Emergency and First Aid

1. Identify and respond to interferences with patient=s airway, breathing, circulation
2. Identify and treat impending shock according to protocol
3. Identify and respond to epileptic seizure according to protocol
4. Control hemorrhage
5. Administer blood transfusion according to protocol
6. Immobilize the patient with potential fracture
7. Identify and respond to injestion of toxic substances
8. Identify protocol for treatment of injury/bites of snakes, mammals, insects
9. Apply the principles of triage care to a multiple-victim situation
10. Stabilize and transport complex cases to a higher care center

Note: Maintain records of each case.

Clinical Objectives for Medicine - II

Psychiatry

1. Identify the clinical features of psychosis, depression, bipolar mood disorders, anxiety disorders.
2. Assess the mental and psychological status of clients.
3. Assess the risks for suicide by a client.
4. Maintain a safe, comforting environment for the suicidal client and counsel the family to do the same.
5. Treat the client who has attempted suicide by overdose.
6. Differentiate between actual physical disease and somatoform (hysterical) symptoms.
7. Medicate the client who presents with severe symptoms of psychosis, depression or anxiety.
8. Identify indications for referral to a specialty center for treatment.
9. Existing recording and reporting system of DHO.

Note: Minimum one cases in each sub-topics and maintain records

Dermatology

1. Identify common skin lesions and conditions
2. Differentiate between the common skin conditions
3. Advise for the treatment and prevention of skin disorders
4. Identify and refer complex conditions
5. Implement measures to prevent transmission of contagious conditions
6. Existing recording and reporting system of DHO.

Note: Minimum one case in each sub-topics and maintain scientific records)

Pediatrics including Neonatology

1. Assess the infant/child regarding: growth and development, congenital abnormalities, injuries.
2. Conduct complete history taking including birth history from guardian.
3. Perform a complete physical examination according to Integrated Management of Childhood. (IMCI).
4. Implement treatment according to guidelines.
5. Identify and refer cases requiring higher level care.
6. Administer immunizations according to guidelines.
7. Counsel mothers regarding: nutrition, safe drinking water, hygiene, hypo/hyperthermia, how to use oral rehydration, symptoms requiring medical attention, family planning.
8. Distribute vitamin supplements as needed.
9. Existing recording and reporting system of DHO.

Note: Minimum two cases in each sub-topics and ten cases for no six and maintain scientific records.

Neonatology

1. Care of newborn at birth (5 babies)
2. Hand washing
3. Assessment of newborn at different period
4. Identification of LBW using weighing scale
5. Identification of hypothermia using thermometer
6. Observe management of Asphyxiated babies (Resuscitation)
7. Kangaroo mother care
8. Counseling family on need of referral , after care of resuscitation , discharge counseling on KMC , breast feeding
9. Expressed breast milk and Cup feeding
10. Observe management of PSBI baby including introduction of antibiotic iegentamycine , cotriumetc
11. Baby bath
12. Postnatal visit /Home visit
13. Existing recording and reporting system of DHO.

Note: Minimum five cases in each sub-topics and maintain neonatal records.

Clinical Objectives for Surgery - II

Ophthalmology

1. Perform a basic eye examination; visual acuity, gross appearance of upper & lower conjunctiva and cornea.
2. Identify and advise for treatment simple eye disorders of the eyelids including blepharitis, stye, chalazion, trichiasis, entropion, ectropion.
3. Identify various causes of conjunctivia, advise treatment, and take measures to prevent spread of contagious conjunctivitis.
4. Identify and advise treatment for trachoma; take actions to prevent trachoma.
5. Identify corneal ulcer, institute appropriate therapy, and refer for expert care.
6. Identify ocular manifestations of vitamin A deficiency, advise treatment and take measures to prevent this disease.
7. Identify symptoms or presence of cataract, iridocyclitis, glaucoma, refractive errors, and refer these cases for expert care.
8. Perform removal of foreign bodies from conjunctiva and cornea in simple cases.
9. Existing recording and reporting system of DHO.

Note: Minimum two cases in each sub-topics and maintain scientific records.

Otorhinolaryngology (ENT)

1. Elicit history of ear, nose, and throat conditions
2. Demonstrate basic methods of examination of the ear, nose & throat
3. Identify and treat common simple conditions of the ear, nose & throat
4. Assess for gross hearing impairment and refer as indicated
5. Intervene with foreign bodies or hemorrhage of ear, nose & throat
6. Existing recording and reporting system of DHO.

Note: Minimum two cases in each sub-topics and maintain scientific records

Dentistry

1. Demonstrate the techniques and counsel the purpose of oral health care
2. Perform loose teeth extractions
3. Identify and treat simple conditions of the mouth, teeth, and jaw
4. Identify complex cases for referral to higher level care
5. Manage simple post-extraction hemorrhage or tooth pain
6. Perform local anaesthetic procedures
7. Existing recording and reporting system of DHO.

Note: Minimum two cases in each sub-topics and maintain scientific records

Clinical Objectives for Obstetrics & Gynecology, Maternity and Neonatology

A. Labor & Delivery (L&D):

1. Confirm labor and perform a complete antenatal assessment.
2. Identify the stages of normal L&D for primipara and multipara women.
3. Assessment the progress of labor: cervical changes, effacement, dilation, mucus show, amniotic release, crowning, duration & frequency of contraction, desire to push.
4. Implement measures to promote comfort and the progression of labor.
5. Observe the assessment of the presentation, rotation & descent of the fetal occiput, both vaginal and abdominal examination.
6. Assist with the procedures for the management of second stage labor.
7. Assist with the procedures for the active management of third stage labor.
8. Assess for the signs & symptoms of prolonged labor/fetal distress/maternal distress.
9. Assist with the process for assessment and treatment of retained placenta, cervical or vaginal tears, uterine atony.
10. Differentiate the causes of post partum hemorrhage and observe/assist with the treatment for each.
11. Conduct normal deliveries and assist with abnormal deliveries.
12. Demonstrate the procedure for removal of retained placenta.
13. Demonstrate the procedure for suturing of a simple episiotomy
14. Existing recording and reporting system of DHO.

Note: Minimum two cases in each sub-topics and maintain scientific records

B. Newborn Care/Postpartum Care

1. Assist with newborn care
2. Assess the postpartum patient for complications
3. Examine the newborn according to the assessment guidelines.
4. Evaluate the ability of the infant to breastfeed successfully.
5. Counsel the new mother/family regarding: breastfeeding, hygiene, nutrition, immunizations, family planning.
6. Teach newborn danger signs and postpartum danger signs to the new mother.
7. Assess the symptoms and assist with management of postpartum complications.
8. Existing recording and reporting system of DHO.

Note: Minimum one cases in each sub-topics and maintain scientific records.

C. Complications of Pregnancy

1. Assist with management of various types of abortion.
2. Assist with the management of the various causes of vaginal bleeding.
3. Assess for the symptoms of pre-eclampsia and eclampsia.
4. Assist with the treatment for eclampsia.
5. Existing recording and reporting system of DHO.

Note: Minimum one cases in each sub-topics and maintain scientific records.

D. Gynecology

1. Identify the clinical features of common gynecological conditions that require hospital treatment.
2. Administer the prescribed treatment for gynecological conditions requiring hospitalization.
3. Evaluate the effectiveness of prescribed treatments.
4. Counsel clients regarding prevention of gynecological disorders.
5. Existing recording and reporting system of DHO.

Note: Minimum one cases in each sub-topics and maintain scientific records

Clinical Objectives for OB-GYN, MCH and FP Out Patient Services

A. Antenatal/Postpartum Care OPD

1. Identify signs and symptoms of normal pregnancy.
2. Assess for symptoms of complications of pregnancy that will require hospital management.
3. Identify risk factors that require treatment or special monitoring and prescribe that treatment..
4. Counsel pregnant women regarding: preparation for delivery, nutrition, healthy behaviors, warning signs to report, immunization schedule, breastfeeding, family planning.
5. Document the progress of pregnancy according to agency procedure.
6. Assess the post partum client for complications of delivery.
7. Existing recording and reporting system of DHO.

Note: Minimum five cases in each sub-topics and maintain scientific records

Immunizations/Well Baby OPD

1. Assess the infant regarding: growth and development, congenital abnormalities, injuries.
2. Identify and refer cases requiring higher level care.
3. Administer immunizations according to guidelines.
4. Counsel mothers regarding: nutrition, safe drinking water, hygiene, hypo/hyperthermia, how to use oral rehydration, symptoms requiring medical attention, family planning.
5. Distribute vitamin supplements as needed.
6. Existing recording and reporting system of DHO.

Note: Minimum two cases in each sub-topics and maintain scientific records

Gynecology OPD

1. Identify and treat simple conditions of the female reproductive tract: vaginal discharge, prolapsed uterus, pelvic inflammatory disease, sexually transmitted diseases
2. Give contraceptive teaching and refer for sterilization as needed
3. Identify and refer conditions requiring surgical treatment: intra-abdominal mass, fibroid, tumors, Bartholin abscess
4. Identify and respond to abnormal vaginal bleeding, pre & post menopause
5. Existing recording and reporting system of DHO.

Note: Minimum two cases in each sub-topics and maintain gynecological history, clinical examination, provisional diagnosis and management

Family Planning OPD

1. Identify the benefits of family planning to clients.
2. Assess the client who seeks family planning assistance: to rule out pregnancy, to determine ability to use certain methods, to determine family/individual desires.
3. Describe the advantages and disadvantages of the available methods of contraception in terms which are understandable to clients.
4. Assist the client to freely select an appropriate method of contraception.
5. In simple terms, explain how to correctly use each method of birth control.
6. Identify strategies for dealing with undesired effects of each method.
7. Identify medical conditions that indicate use of a contraceptive method to prevent pregnancy.
8. Existing recording and reporting system of DHO.

Note: Minimum two cases in each sub-topics and maintain family planning detail records.

Third Year

Comprehensive Community Field Practicum

(HP/PHCC attachment & community health diagnosis)

Community Health Diagnosis and HP/PHCC attachment - 48 days (Saturdays are not included)

Community Health Diagnosis - 24 days

a. Epidemiology, Community health diagnosis and Micro Health Project- 6+5+4=15 days
b. Community environmental health related activities- 4 days
c. School and community health education- 5 days

PHC/Health post attachment- 24 days

a. Client assessment - 9 days
b. Injection, dressing and dispensing – 5 days
c. MCH/FP/Nutrition – 5 days
d. Recording and reporting (Monthly and annual), logistic, meeting - 5 days

The student performs self-study/problem base learning on case studies and recording and reporting. The ratio of theory and practical and case study recording and reporting is 2:3.

On completion of this course the student will be able to:

Primary Health Care Services

1. Provide competent middle-level health care: diagnosis and treatment for uncomplicated mental & physical, acute & chronic health care problems.
2. Perform a complete history taking and physical exam on children and adults, to identify abnormal conditions.
3. Make home visits to fully assess the health care needs of the family situation.
4. Direct community outreach services.
5. Identify and respond to the needs of vulnerable populations (children, the poor persons without family, mentally disturbed, retarded, homeless, aged & infirm).
6. Intervene with the trafficking of vulnerable persons.
7. Identify the constraints, limitations and potentials of the health post situation when giving primary health care.
8. Use problem solving and adaptation to meet the health care needs of individuals or families.
9. Identify indications for referral to a higher level health care facility.

Note: Minimum 5 cases in each sub-topics and maintain appropriate records according to heading.

Community Diagnosis

1. Develop a project timetable which sets the schedule for a community diagnosis project.
2. Develop and pretest a community survey questionnaire for the Community Diagnosis project.
3. Establish good rapport with the community members of the target population.
4. Create a geographic map of the selected community.
5. Collect data using a representative sample and appropriate techniques (questionnaire, interview, observation, others).
6. Process the data and perform an interpretation and needs assessment.
7. Present the community with an analysis of the problem.
8. Design and implement solutions in partnership with the community (Micro Health Project).
9. Evaluate the effectiveness of the solutions.

Community Environmental Health related activities

1. Promote public responsibility for environmental sanitation through health education.
2. Identify and resolve contamination of drinking water within the community.
3. Promote the construction of pit latrines.
4. Counsel individuals and community to promote personal hygiene habits.
5. Identify and advise individuals and community about hygienic methods for maintaining domestic animals.
6. Identify occurrences of threats to the eco-system of the community and promote public support for sound environmental management.
7. Apply environmental sanitation principles in controlling communicable disease.

Note: Minimum 1 case in each sub-topics implementation and maintain records.

Health Education

1. Identify and prioritize community health needs based on data collection.
2. Plan and implement health education programs that promote wellness, prevent illness, and teach curative and rehabilitative health care.
3. Use health education methods and media appropriately, creatively and effectively.
4. Monitor the implementation of health education programs.
5. Evaluate the effectiveness of health education programs and modify them as needed.

Family Health

1. Implement motivational strategies for selection of suitable family planning methods by individuals and couples.
2. Provide family planning materials, education and follow-up care.
3. Implement national guidelines for the care of mothers and children.
4. Provide for antenatal, perinatal, postnatal care to mothers and infants.
5. Promote and provide the recommended immunizations for children and mothers.
6. Execute and manage EPI and PHC outreach clinics.
7. Promote healthy nutrition among all family members.
8. Identify treat and resolve the problem of childhood malnutrition among community children.
9. Identify treat and prevent the common diseases of young children.
10. Maintain records of family planning methods, ANC and relevant forms
11. Demonstrate Balanced and mixed diet
12. Demonstrate preparation of jeevan jal and weaning foods

School Health

1. Identify and analyze the occurrence of health problems among school age children.
2. Identify and analyze environmental health problems of the schools.
3. Present a data based needs analysis of school health problems to school authorities.
4. Implement solutions to school health problems.
5. Provide health instruction to students including nutrition, sex education and prevention of communicable disease.
6. Provide regular health checkups to school children.

Health Post Management

1. Describe the functions of the national public health care agencies, public health NGO's and INGO's and tell how the health post cooperates with each.
2. Analyze and describe community dynamics as they relate to community health.
3. Promote community partnership in health post activities.
4. Take appropriate measures to prevent/control communicable disease.
5. Maintain accurate records of health post activities.
6. Prepare monthly reports accurately and promptly and maintain records.
7. Supervise and direct the health post staff.
8. Maintain communications with all coordinating agencies,
9. Maintain health post supplies, inventories and logistics according to LMIS.
10. Promote quality assurance principles in health post activities.
11. Maintain a safe and pleasant health post environment.

Note: Develop a community diagnosis and community healt practicum written report and give an oral presentation.

Internal Evaluation Scheme for Community Field Practicum

Attendance:	25%
Participation in PHCC/HP activities:	25%
Participation in community activities:	25%
Report preparation and presentation:	25%
Total:	**100%**