

CURRICULUM

for

Conversion Program

**(Two year's Dental Hygienist to three years
Certificate in Dental Science)**



Council for Technical Education and Vocational Training

Curriculum Development Division

Sanothimi, Bhaktapur

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Introduction

Council for Technical Education and Vocational Training (CTEVT) has operated 2 years TSLC level Dental Hygienist course from 2058 B.S to 2071 B.S. There were about 1000 graduates under this programme. According to the law, they could not be considered as Proficiency Certificate Level (PCL) or Diploma Level due to the less course contents and less time duration. Therefore this conversion course is developed to fulfill the gaps 2 years TSLC (Dental Hygienist) and 3 years Certificate in Dental Science (Dental Hygiene)” course.

Aim

The aim of this program is to convert the two years TSLC in dental hygienist course into three years certificate level to make it equivalent to Certificate in Dental Science program.

Objectives

The objectives of this programme are;

- to impart skills and knowledge in related areas through world of work experience
- to provide skills & knowledge of foundation subjects/core subjects
- to convert two years Dental Hygienist certificate holders into three years Certificate in Dental Science certificate holders.

Course Description

The course is based on the job required to be performed by a Dental Hygienist at different health institutions in the country. The conversion course of Certificate in Dental Science (Dental Hygiene) program extends over two academic years. The first year consists of compulsory foundation subjects offered in certificate and diploma level programs of health science program run by CTEVT, and the second year provides deficiency courses based on the gap analysis conducted on Certificate in Dental Science (CDS).

The first part of the second year focuses on the fundamental subjects of dental science and public health, and the second part of the second year focuses on the application of acquired knowledge and skills through comprehensive practices in hospital and in community settings. The contents of individual subjects prescribed in the curriculum are incorporated in the light of "must know and must do" principle.

Duration

The duration of this conversion course will be of two academic years. An academic year consists of minimum of 39 academic weeks and one academic week consists of maximum of 40 hours.

Group Size

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

Entry Criteria

TSLC pass in two years Dental Hygienist Course.

Medium of Instruction

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

Pattern of Attendance

Students enrolled in this program are full time or regular students and they are required to maintain at least 90 percent attendance in each subject.

Teacher and Student Ratio

The teacher and student ratio is:

- Overall teacher / student ratio must be 1:10 at the institution level
- Teacher/student ratio for practical demonstration must be 1:10
- Teacher/student ratio for theory is as per the nature of course

Program Coordinator, Teachers and Demonstrators

The required qualifications of the program coordinator, teachers and demonstrators are:

- The program coordinator/Principal should be a master degree holder in related field or a bachelor degree holder in related field with minimum of 3 years' experience in teaching activities.
- 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 or as per minimum requirements of NHPC & CTEVT.
- The foundational subject related teacher should be master degree holder in the related areas.

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 program, videodiscs, videotapes etc.).
- **Computer-Based Instructional Materials** (computer-based training, interactive video etc.).

Teaching Learning Methodologies

The methods of teaching 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.

Methods of Evaluation

- Weight age of theory & practical and internal & final marks will be according to the course structure.
- Each subject will have internal evaluation at regular intervals of 4 months and students must get the feedback about it.
- Student who fails in the internal assessment of any subject will not be allowed to sit in the final examination of that subject.

- The final examination of all theory part will be administered through written test.
- Final practical examinations are evaluated by qualified professionals.
- One evaluator can evaluate not more than 20 students in one day practical examination sitting.
- Practical examination should be administered in actual situation on relevant subject with the provision of at least one internal evaluator from the concerned institute led by external evaluator nominated by CTEVT.
- If a student becomes unable to succeed in any subject s/he shall appear in the re-examination organized by the CTEVT.
- Provision of re-examination is as per the CTEVT policy, but a student must pass all the subjects of all years within six year from the enrollment date.

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.

Certification and Degree Awards:

- Students who have passed all the components of all subjects of all 2 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 Dental Science (Dental Hygiene)**".

Registration and Career Opportunity

- The graduates will be eligible for the position equivalent to non-gazette 1st class (technical) as Dental Hygienist or as prescribed designation by the Public Service Commission/Nepal Health Professional Council.
- The graduate is eligible for registration with the Nepal Health Professional Council in the grade as mentioned in the Nepal Health Professional Council Act.
- The graduates will be eligible for study bachelor level in related field.

Course structure

Part I: First Year course on certificate/diploma in health science related program

First year

SN	Subject	Nature	Mode			Distribution of Marks						Total Marks
						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		30	10	40	170	560		60	60		850

Part II: Deficiency course based on the finding of Gap Analysis on CDS Program

S. N.	Subject	Theory Hours		Total Hrs	Distribution of Marks						Total Marks
		T	P		Theory			Practical			
					Internal	Final	Time (Hrs)	Internal	Final	Time (Hrs)	
1	Basic Dental Science	32	35	67	10	20	1.5	10	10		50
1.1	Dental Anatomy and Physiology	8	15	23							
1.2	Oral Pathology & Microbiology	16	8	24							
1.3	Dental Radiography & Dental Photography	8	12	20							
2	Dental Materials, Instruments & Assisting	74	16	90	20	60	3	10	10		100
3	Basic Periodontology	116	35	151	20	60	3	10	10		100
3.1	Basic Periodontology I	58	15	73							
3.2	Basic Periodontology II	58	20	78							
4	Community Dentistry	176	0	176	20	80	3				100
4.1	Health Education	36	0	36							
4.2	Epidemiology & community diagnosis	70	0	70							
4.3	Environmental Health,	70	0	70							
5	Basic Medical Procedures & Pharmacology	95	25	120	20	60	3	10	10		100
5.1	Basic Medical Procedures / First Aid	85	25	110							
5.2	Basic Dental Pharmacology	10	0	10							
6	Food and Nutrition	50	2	52	10	40	1.5				50
7	Health Office Management	50	0	50	10	40	1.5				50
8	Dental Public Health and Jurisprudence	50	24	74	10	20	1.5	10	10		50
	Total (40 hours/week*19.5 Week/6 months)	643	137	780	120	380		50	50		600

9	Comprehensive Professional Field Practice	Internal Supervision	Internal Exam	External Exam	Total	
	(a) Clinical	40 hrs/week/12 weeks	100	100	100	300
	(b) Community	40 hrs/week/12 weeks	100	100	100	300
	Sub-Total		200	200	200	600

First Year

All first year course from certificate/diploma in health science related program

Second Year

Deficiency course based on the finding of Gap Analysis on CDS Program

1. Classroom Teaching plus practical = 6 months (19.5 weeks/40 hrs/week)
2. Comprehensive Lab Practice = 6 months (40 hrs/week/24 weeks)

Detail Curriculum

1. Basic Dental Science

S. N.	Subject	Theory Hour	Practical Hour	Total Hour
1.1	Dental Anatomy & Physiology	8	15	23
1.2	Oral Pathology and	16	8	24
1.3	Dental Radiography & Dental Photography	8	12	20
	Total	32	35	67

1.1 Dental Anatomy & Physiology

Contents:

Unit 1: Skeleton system

1. Review of skeleton of head and neck
2. Enumerate skeleton of vertebra with emphasis on cervicle vertebra

Unit 2: Temporo-mandibular joint

1. Define T.M.J.
2. Explain Structure of T.M.J. with diagram
3. Describe movements of T.M.J.

Unit 3: Tooth

Sub unit 1: Growth and development of tooth

1. Describe development of dentition and explain different stages of tooth development

Sub unit 2: Occlusion

1. Define occlusion

Sub unit 3: Tooth numbering system

1. Explain merits and demerits of Zigmondy- palmer System, ADA System, FDI System

Unit 4: Physiology of mastication & deglutition

1. Differentiate between infantile swallow and mature swallow

Unit 5: Neurology

1. Enumerate cranial nerves and their functions

Practical

15 hours

Perform the following tasks;

1. Perform demonstration of tooth carving
2. Maintain carving log book with figure

1.2 Oral Pathology & Microbiology

Contents

Unit 1: Oral Pathology

Sub unit 1: Introduction

1. Define pathology
2. Write down concept of disease
3. Describe etiology and pathogenesis of disease
4. Explain disease process
5. Define atrophy, hypertrophy, cell injury, cell death, ulcer, regeneration, necrosis, dysplasia, metaplasia, abfraction etc.

Sub unit 2: Inflammation

1. Define inflammation
2. Describe causes and types of inflammation
3. Describe clinical features of inflammation
4. Enumerate and explain cardinal signs of inflammation

Sub unit 3: Systemic diseases and their oral manifestations

1. Discuss oral manifestations of diabetes mellitus
2. Discuss oral manifestations of leukemia, anemia
3. Discuss oral manifestations of syphilis, tuberculosis, AIDS etc.
4. Discuss candidiasis and oral thrush
5. Discuss hepatitis and its types
6. Discuss HIV/AIDS, its prevention, mode of infection and oral manifestations
7. Define infective endocarditis, list down risk factors
8. Describe clinical features & prophylaxis of infective endocarditis

Unit 2: Microbiology

1. Discuss scope and branches of microbiology
2. Discuss contributions of Louis Pasteur, Robert Koch and Socransky
3. Draw well labeled diagram of simple & compound microscope

Unit 3: Micro-organisms

Sub unit 1: Introduction

1. Describe Virus with diagram
2. Describe Fungi with diagram
3. Describe Protozoa with diagram
4. Describe Amoeba with diagram
5. Describe Helminthes with diagram

Sub unit 2: Morphology and structure of micro-organisms

1. Describe morphological form and structure of bacteria

2. Explain spore and capsule of bacteria
3. Describe morphology & structure of virus

Sub unit 3: Growth and multiplication of bacteria

1. Explain growth and multiplication of bacteria
2. Describe factors affecting growth of bacteria
3. Discuss cultivation of microbes
4. Write short notes on culture media

Unit 4: Infection

1. Define infection
2. Name the sources and types of infection
3. Describe clinical features and sequelae of infection

Unit 5: Sterilization

Sub unit 1: Universal precaution

1. Define universal precaution
2. Describe procedures followed in universal precaution

Sub unit 2: Hand scrubbing

1. Explain process of hand scrubbing in operatory with their significance

Unit 6: Clinical waste management

1. Explain clinical waste
2. List and explain the types of waste management
3. Discuss clinical wastes of dental operatory
4. Explain procedure of waste management of dental operatory
5. Explain dental amalgam waste management

Practical

8 hours

Oral Pathology

1. Identify common cyst and tumors.
2. Identify developmental anomalies
3. Identify attrition, abrasion and erosion
4. Identify dental caries

Microbiology

1. Study of morphological form and structure of bacteria.
2. Identify and demonstrate different method of sterilization.
3. Demonstrate infection control and universal precaution.

1.3 Dental Radiography & Dental Photography

Theory: 8 hrs

Practical: 12 hrs

Contents:

Unit 1: Dental radiography

Sub Unit 1: Bite wing X-ray taking Procedure

1. Describe the Advantage and Disadvantages of Bite Wing X-Ray
2. Describe the principle of Bite Wing Technique
3. Describe the X-ray film and X-ray cone position required in Bite wing technique

Sub Unit 2: Occlusal X-ray taking Procedure

1. Explain Advantages and Disadvantages of Occlusal X-Ray
2. Discuss Occlusal X-ray Film
3. Describe the X-ray film and X-ray cone position required in Occlusal X-ray.

Sub Unit 3: Panoramic (OPG) X-ray taking Procedure

1. Explain Advantages and Disadvantages of Panoramic X-Ray
2. Discuss Panoramic X-ray Film
3. Describe procedure of Panoramic X-Ray taking

Sub Unit 4: Cephalogram X-ray taking Procedure

1. Explain Advantages and Disadvantages of Cephalogram X-Ray
2. Describe types of cephalometric view including frontal and lateral
3. Discuss Cephalogram X-ray Film
4. Describe procedure of cephalogram X-Ray taking

Sub Unit 5: Other X-ray taking Procedures

1. Describe procedure of Lateral oblique view x-ray taking
2. Describe procedure of TMJ view x-ray taking
3. Describe procedure of PNS view x-ray taking

Sub Unit 6: Radiographic Errors & Solution

1. Explain the Cone Cut error and describe the technique to avoid it.
2. Define Under Exposure. Discuss the reason and management of under exposure
3. Define Over Exposure. List the management of over exposure of X-ray.
4. Describe the reasons of Elongation of the object in the X-ray
5. Describe the reasons of shorting of the object in the X-ray
6. Discuss Various Artifacts and its management in dental radiography

Sub Unit 8: X-ray film processing & mounting and Record keeping

1. Explain the composition and function of Developer Solution.
2. Explain the composition of function of Fixtured Solution
3. Describe the methods of preparing Developing Solution

4. Describe the methods of preparing Fixture Solution
5. Describe the requirement of X-ray Developing Room or Box
6. Describe steps of X-ray processing.
7. Discuss the methods of x-ray mounting and storing

Unit 2: Dental Photography

Sub Unit 1: Importance/ application of Clinical Photography

1. Describe the importance/ application of clinical photographs in Dentistry

Sub Unit 2: Cameras and its Parts

1. Describe SLR Camera and its advantages
2. Discuss Digital Camera and its advantages
3. Explain Camera's basic parts like Body, Lenses, and Flash.

Sub Unit 3: Principles of Photography

1. Define Shutter and explain its importance/ application in photography
2. Define Aperture and explain its importance/ application in photography
3. Define Exposure and explain its importance/ application in photography
4. Discuss Light Source in dental photography
5. Define Depth of Field and explain its importance/ application in photography
6. Discuss Magnification and
7. Discuss Focus and various methods
8. Discuss Composition in photography
9. List Basic Armamentarium in photography and its uses

Sub Unit 4: Photographic Technique in Dentistry

1. Describe difference between Intra Oral and Extra Oral Technique
2. Describe Basic Steps of Intra oral photographic technique of
 - a. Frontal View
 - b. Right Buccal View
 - c. Left Buccal View
 - d. Maxillary Occlusal
 - e. Mandibular Occlusal
3. Describe Basic Steps of Extra oral photographic technique of
 - a. Full Face View
 - b. Profile View
4. Describe the care and maintenance technique of dental photographic equipment

Practical

12 hours

1. Identify X-ray machine and parts
2. Demonstrate and take IOPA of upper and lower incisors, canine, premolars and molars
3. Demonstrate and take bitewing and occlusal x-ray
4. Take OPG and lateral cephalogram
5. Perform processing of exposed x-ray
6. Demonstrate disinfection and cleaning of x-ray machine.
7. Demonstrate steps of intra- oral and extra -oral photography

2. Dental Materials, Instruments & Dental Assisting

Year: II

Theory Total: 74 hrs

Practical Total: 16 hrs

Course Description:

The course aims to introduce and manipulate various dental materials used in dental practice. Identification of the various dental instruments is also taught to the students so as to facilitate in chair-side assisting to the dental surgeon in clinical setting.

Objectives:

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

1. Identify, discuss and manipulate common dental materials
2. Identify common instruments used in dental practice
3. Describe basic maintenance of dental instruments and equipment in the dental operator
4. Assist a dental surgeon in carrying out dental procedures in clinical setting

Contents:

Unit 1: Introduction & biological consideration of dental materials [9 hrs.]

1. Describe and enlist commonly used dental materials
2. Discuss biological requirements of dental materials of dental materials
3. Discuss on hazards from chemicals in dental materials
4. Discuss on importance of disinfection of dental materials
5. Discuss requirement of shelf life and storage of dental materials

Unit 2: Gypsum Products [5 hrs.]

1. Classify gypsum products and its application in dentistry
2. Describe properties of gypsum products
3. Explain manipulation process of gypsum products
4. Calculate recommended water power ratio
5. Explain process of disinfection of gypsum materials

Unit 3: Impression materials [9 hrs.]

Sub unit 1: Introduction

1. Define impression material
2. Classify impression materials
3. Describe desirable properties of impression materials
4. Describe process of disinfection of impression materials
5. Describe the process of transfer of impression materials
6. Describe the process of storage of impression materials

Sub unit 2: Impression compound

1. Define impression compound
2. Describe ideal requirements of impression compound
3. Explain manipulation process of impression compound

Sub unit 3: Zinc oxide eugenol impression paste

1. Describe zinc oxide eugenol impression paste
2. Explain the Manipulation process eugenol impression paste

Sub unit 4: Alginate

1. List and explain types of alginate
2. Explain manipulation process of alginate
3. Explain the process of loading alginate in the impression trays
4. Describe the storage of alginate

Sub unit 5: Elastomeric impression materials

1. Enumerate and classify elastomeric impression materials
2. Describe silicon based impression material and its manipulation
3. Describe agar impression material and its manipulation
4. Describe storage of elastomeric impression materials

Unit 4: Composite resins

[2]

1. Describe composite resins
2. Enlist and explain types of composite resins
3. Manipulation process of composite resins
4. Explain the process of eye protection during light curing

Unit 5: Dental amalgam

[2]

1. Describe dental amalgam
2. Classify amalgam
3. Describe composition of dental amalgam
4. Explain manipulation process of amalgam
5. Explain mercury hazard and wastage disposal methods of dental amalgam

Unit 6: Dental cements

[12]

Sub unit 1: Zinc oxide-eugenol

1. Describe Oxide-eugenol cement
2. Describe composition of zinc oxide-eugenol cement
3. Explain manipulation process of zinc oxide-eugenol cement

Sub unit 2: Zinc phosphate

1. Describe zinc phosphate cement
2. Describe composition of zinc phosphate
3. Explain manipulation process of zinc phosphate

Sub unit 3: Glass ionomer

1. Describe glass ionomer cement
2. Classify glass ionomer cement
3. Describe composition of glass ionomer cement
4. Explain manipulation process of glass ionomer cement

Sub unit 4: Zinc polycarboxylate

1. Describe zinc polycarboxylate cement
2. Describe composition of polycarboxylate cement
3. Explain manipulation process of polycarboxylate cement

Sub unit 5: Calcium hydroxide

1. Describe calcium hydroxide cement
2. Describe types of calcium hydroxide cement
3. Describe composition of calcium hydroxide cement
4. Explain manipulation process of calcium hydroxide cement

Unit 7: Dental waxes**[5]**

1. Describe dental waxes
2. Enlist & explain types of dental waxes
3. Explain manipulation process of modeling wax

Unit 8: Dental models, cast and die materials**[5]**

1. Describe dental models, cast & die materials
2. Enlist different dental materials used for making model, cast & die
3. Discuss manipulation process of dental plaster, dental stone and die stone
4. Describe laboratory process of pouring of cast
5. Describe laboratory process of base forming of cast

Unit 9: Dental instruments**[5]****Sub Unit 1: Identification of instruments**

1. Describe and classify dental instruments
2. Discuss the identification of common diagnostic, restorative, endodontic, prosthodontic, orthodontic and oral surgery instruments

Sub Unit 2: Impression Trays

1. Describe and classify impression trays
2. Identify various types of impression trays
3. Discuss the methods of sterilization of impression trays

Unit 10: Dental assisting**[10]****Sub unit 1: Dental chair**

1. Enlist and identify various parts of dental chair and their functions
2. Demonstrate the operation of dental chair units into various positions

Sub unit 2: Chair-side assisting

1. Demonstrate various positions of the operator and the assistant
2. Describe various steps of patient preparation before operative procedure

3. Describe patient preparation in special situations including the case of child patient, handicapped patient, apprehensive patient, medically compromised patient, pregnant patient etc.
4. Describe role of dental assisting in special situations including medical emergencies
5. Describe role of dental assisting in special situation like choking, or aspiration of dental instruments/materials by the patient
6. Describe post treatment instructions after various dental procedures

Sub unit 3: Saliva control and isolation

1. Enlist different methods of saliva control & isolation
2. Describe use of suction machine for saliva control
3. Describe application of rubber dam for isolation of tooth
4. Prepare cotton roles for saliva control

Unit 11: Maintenance of dental equipment and instruments

[10]

Sub unit 1: Cleaning

1. Demonstrate cleaning of dental chair
2. Demonstrate cleaning of dental equipment including suction apparatus, amalgamator, scaling machine, autoclave, light cure machine, compressor etc.
3. Describe disinfection of water pipe, handpiece chord, drainage system of dental chair unit

Sub unit 2: Maintenance and servicing of dental equipment

1. Describe air servicing of dental chair unit
2. Demonstrate oiling/lubrication of dental chair unit and compressor
3. Demonstrate oiling and storage of handpiece unit
4. Demonstrate changing of cartridge of handpiece unit
5. Demonstrate changing of bulb and cleaning of illumination panel
6. Demonstrate changing of fuse wire of various electrical dental appliance

Sub unit 3: Sterilization of dental instruments

1. Define sterilization
2. Enlist different methods of sterilization
3. Describe the process of sterilization and disinfection of various dental instruments
4. Describe sterilization dental handpiece

Sub unit 4: Dental waste disposal

1. Define waste disposal
2. Discuss the types of biological waste products in the dental operator
3. Explain mercury waste in the dental operator
4. Discuss the process of various biological and physical waste in the dental operator

Practical

16 hours

1. Identify dental Instruments
2. Identify and manipulate gypsum products
3. Identify and manipulate impression materials
4. Identify and manipulate restorative materials
5. Identify dental wax
6. Demonstrate different methods of isolation and sterilization

3. Basic Periodontology

S. N.	Subject	Theory Hour	Practical Hour	Total Hour
3.1	Basic Periodontology I	58	15	73
3.2	Basic Periodontology II	58	20	78
	Total	116	35	151

3.1 Basic Periodontology I

Contents;

Unit 1: Introduction:

1. Describe Periodontium
3. Discuss historical background of Periodontology

Unit 2: Normal Periodontium

Sub unit 1: Gingiva

1. Describe normal microscopic features of gingiva
2. Discuss development of gingival sulcus
3. Discuss renewal of gingival epithelium

Sub unit 2: Cementum

1. Classify cementum and enlist types of cementum
2. Discuss cemento-enamel junction
3. Discuss thickness of cementum
4. Discuss cementum resorption and repair
5. Describe ankylosis

Sub unit 3: Alveolar process

1. Define alveolar process and describe its structure
2. Describe cells, intercellular matrix
3. Describe bone marrow, periosteum and endosteum in alveolar process
4. Describe socket wall, interdental septum
5. Describe normal osseous topography of alveolar bone
6. Explain fenestration and dehiscence
7. Describe remodeling of alveolar bone
8. Describe physiologic migration of the teeth
9. Describe occlusal forces and the periodontium
10. Explain blood supply, venous & lymphatic drainage

Sub unit 4: Defense mechanism in periodontal health

1. Discuss role of epithelium
2. Describe gingival crevicular fluid in defense mechanism of oral cavity
3. Explain role of saliva and its function

Unit 3: Classification and epidemiology of periodontal disease

Sub unit 1: Classification of periodontal disease

1. Classify gingival and periodontal diseases as described in World Workshop on Periodontal Health 1989
2. Classify gingival and periodontal diseases as described in World Workshop on Periodontal Health 1999
3. Discuss advantage and limitations of World Workshop classification

Sub unit 2: Epidemiology of periodontal disease

1. Define epidemiology, incidence,
2. Discuss epidemiology of periodontal disease
3. Discuss prevalence and incidence of periodontal disease
4. Describe Gingival index
5. Describe Oral Science index

Unit 4: Etiology of periodontal disease

Sub unit 1: Periodontal microbiology

1. Discuss microbiology of dental plaque
2. Discuss association of plaque microorganisms with periodontal disease
3. Discuss microbial specificity of periodontal disease
4. Discuss criteria for identification of periodontal pathogens
5. Discuss virulence factor of periodontal pathogens
6. Discuss colonization and invasion of periodontal tissues
7. Discuss mechanism of host tissue damage

Sub unit 2: Host response

1. Discuss mechanism of inflammatory cell response
2. Discuss role of mast cells, neutrophils, macrophages, lymphocytes, plasma cells
3. Discuss role of antibody, complement, cytokines and immune mechanisms

Sub unit 3: Dental calculus

1. Define and classify dental calculus
2. Describe composition of dental calculus
3. Describe mechanism of formation of dental calculus
4. Describe mechanism of attachment of calculus to tooth surface
5. Explain theories regarding the mineralization of calculus
6. Etiologic significance of dental calculus

Sub unit 4: Role of iatrogenic factors

1. Explain role of margin of restoration, contact point, surface roughness, overhanging
2. restoration, tooth contours
3. Explain role faulty dental materials and design of dentures
4. Explain periodontal problems associated with faulty orthodontic treatment

Sub unit 6: Role of local factors

1. Describe role of unrestored missing teeth
2. Describe role of mouth breathing
3. Describe role of tongue thrusting
4. Describe effect of bruxism
5. Describe effect of tooth brush trauma
6. Describe effect of chemical irritation
7. Describe effect of radiation

Sub unit 7: Influence of systemic disease on oral health

1. Explain influence of psychosomatic disorders on periodontium

Sub unit 8: AIDS and periodontium

1. Discuss oral and periodontal manifestations of HIV infection
2. Discuss oral hairy leukoplakia
3. Discuss oral candidiasis
4. Discuss Kaposi sarcoma
5. Discuss bacillary angiomatosis
6. Discuss oral hyperpigmentation
7. Discuss atypical ulcers and delayed healing
8. Discuss HIV gingivitis and periodontitis

Practical**15 hours**

1. Demonstrate principle of periodontal instruments and instrumentation
2. Demonstrate different methods of plaque control
3. Calculate different periodontal indices: Periodontal index, Gingival index, OHI-S index, CPITN

3.2 Basic Periodontology II

Theory Total: 58 hrs

Practical Total: 20 hrs

Contents;

Unit 1: Periodontal Pathology

Sub unit 1: Gingival lesions

1. Describe acute necrotizing ulcerative gingivitis
2. Describe acute herpetic gingivostomatitis
3. Describe pericoronitis
4. Describe chronic desquamative gingivitis

Sub unit 2: Periodontal abscess and cyst

1. Explain periodontal abscess
2. Explain periodontal cyst

Unit 2: Treatment of Periodontal Disease

Sub unit 1: Treatment

1. Describe rationale of various phases in treatment planning of periodontal disease
2. Define scaling and root planing
3. Discuss aims and objective of scaling and root planing
4. Discuss indications and contraindications of scaling and root planing
5. Discuss complications of improper scaling
6. Perform tooth polishing
7. Perform topical fluoride application
8. Follow up
9. Referral

Sub unit 2: Hypersensitivity of teeth

1. Define hypersensitivity of teeth
2. Describe causes of hypersensitivity of teeth
3. Explain theories on hypersensitivity of teeth
4. Describe treatment and precautions for sensitive teeth
5. Explain post-scaling hypersensitivity and its remedy
6. Describe medicated dentifrices and their mechanisms of action
7. Describe ianthophoresis

Sub unit 3: Pharmaco-therapy

1. Describe periodontal dressings

Sub unit 4: Patient management

1. Discuss education, motivation, and oral Science instruction to the patient
2. Discuss pain and anxiety control

3. Discuss post-operative instructions
4. Discuss periodontal treatment of medically compromised patient
5. Discuss periodontal treatment for highly sensitive patient
6. Discuss dental Science care of denture patients
7. Discuss dental Science care of orthodontic patients

Unit 3: Infection control

1. Describe personal aseptic measures taken by the dental hygienist
2. Describe various sterilization and aseptic procedures in dental operator
3. Describe possible cross infections during dental procedures

Practical

20 hours

1. Identify common periodontal pathology
2. Perform case history taking and clinical examination
3. Demonstrate and perform scaling, root planing and polishing

4. Community Dentistry

S. N.	Subject	Theory Hour	Practical Hour	Total Hour
4.1	Health Education	36	0	36
4.2	Epidemiology & Community Diagnosis	70	0	70
4.3	Environmental Health	70	0	70
	Total	176	0	176

4.1 Health Education

Course Description:

The course teaches the educational aspects of public health management, which is an indispensable component for preventive health. 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 community level.

Objectives:

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

1. Appreciate the significance of health education 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 methods and media for successful implementation of health service programs.
4. Plan, implement and evaluate health education 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 (15th ed.) 1997.

Contents:

Unit: 1. Introduction to Health Education [5]

Sub-unit 1: Overview of health education

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, primitive 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.

Sub-unit 2: Principles and scope of health education

1. Describe the scope of health education.
2. Explain the principles of health education; give an example for each one.

Unit: 2 Fundamental Factors of Health Education

[10]

Sub-unit 1: Motivation

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. Tell how to apply a theory of motivation to a health education class on dental care.

Sub-unit 2: Learning

1. Describe the steps of the learning process.
2. Discuss factors, which increase or decrease learning.
3. Explain the theories and principles of learning.
4. Give an example to illustrate the principle “relevancy improves learning” when teaching the mother of a newborn.
5. Apply other principles of learning to health education situations.

Sub-unit 3: Learning

1. Describe the different ways of learning.
2. Identify your own ways of learning.
3. Describe the best way to teach “tooth brushing” to someone who learns by hearing; by seeing; by doing.

Sub-unit 4: Change process

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.

Unit: 3 Methods of Health Education

[5]

Sub-unit 1: Methods overview

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.

Sub-unit 2: Mass group methods

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 method in a health education effort.

Unit: 4. Media of Health Education [2]

Sub-unit 1: Overview of media

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.

Unit: 5. Planning of Health Education Programmes [5]

Sub-unit 1: Principles of planning

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.

Sub-unit 2: Application of planning

1. Describe what is meant by “target group” and give an example.
2. Explain the importance/ application of making plans with sufficient detail.
3. Identify criteria and methods for evaluating a programme.
4. Use all the components of planning to plan a health education programme.

Unit: 6. Implementation of Health Education Programmes [10]

Sub-unit 1: Application of the process

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.

Sub-unit 2: Evaluation of health education program

1. Give examples of ways to measure adequacy, relevancy, and efficacy of an educational program.
2. Describe how a program could be found “inappropriate” by an evaluator.

3. Discuss advantages and disadvantages of each method of evaluation.
4. Apply the process of evaluation to a simulated or real educational program.

Sub-unit 3: Training

1. Describe the benefits of training in Health education program
2. List and Explain different types of training and give examples

Sub-unit 4: Supervision

1. Describe the benefits of supervision in Health education program
2. List and Explain different types of supervision with examples

4.2 Epidemiology and Community Diagnosis

Theory Total: 70 hrs

Practical Total: 0 hrs

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 Banarasidas Bhanot, 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.

Contents:

Unit: 1. Basic Epidemiology [30]

Sub-unit 1: Concepts of Disease

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. Concepts of disease causation:
 - a. Explain the "epidemiological triad" concept of disease causation
 - b. Define the terms: agent, host and environment.
 - c. List examples of common agent, host & environmental, factors.
 - d. Explain with an example the concept of "web of causations."
 - e. Define risk factors & risk groups.
 - f. Illustrate risk factors & risk groups in relation with particular diseases.
5. Explain in brief the natural history of disease.
6. State in brief concept of disease control, elimination, eradications & surveillance.
7. List the names of diseases/health problems that are under the control, elimination, eradication and surveillance of HMG's current health program.

Sub-unit 2: Concepts and method of epidemiology

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. Types of epidemiology:-
6. Screening for disease:
 - a. Define the concept of screening.
 - b. List the pre-requisites of a screening test.
 - c. List the names of common diseases, target populations and tests used for screening.

Sub-unit 3: Infections disease epidemiology

1. Define the terms: infection and infectious disease, epidemic, endemic, sporadic, pandemic, exotic, opportunistic infection, source of infection, reservoir of infection, iatrogenic infection.
2. Dynamics of disease transmission.
 - a. Outline the transmission cycle of disease (chain of infection)
 - b. Describe the term "reservoir" in terms of human reservoir in non-living things.
 - c. Differentiate between direct and indirect modes of transmission; give examples of diseases for each.
 - d. Explain the terms "incubation period" and "period of communicability" in relation to a susceptible host.
 - e. Identify the incubation period and communicable period of common diseases.
3. Infectious disease prevention and control:
 - a. Describe methods for controlling the reservoir, interruption of transmission and protecting the susceptible host.
 - b. Discuss each method of control with relationship to a specific disease.

Unit 2: Community Diagnosis

[30]

Sub-unit 1: Introduction to Community Diagnosis

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.

Sub-unit 2: Data collection

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.

Sub-unit 3: Data processing

1. Explain each step of data processing.
2. Apply data processing to a community diagnosis project in your field practice.

Sub-unit 4: Community presentation

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.

Sub-unit 5: Report writing

1. Explain the aims and benefits of project reports.
2. Describe the components of a project report.

Unit 3: Biostatistics and Dental Science

[10]

Sub-unit 1: Introduce to Biostatistics and Dental Science

1. Introduce to Biostatistics and dental science
2. Define Statistics and its uses in dental science
3. Discuss data, its classification and sources
4. Discuss means of data collection and methods of obtaining primary data
5. Discuss sampling and two basic ways of sample selection
6. Describe sample size and errors in sampling
7. List and explain data presentation methods
8. Discuss in detail the measures of central tendency
9. Discuss in detail the measures of dispersion
10. Briefly discuss the taste of significance

4.3 Environmental Health

Theory Total: 70 hrs

Practical Total: 0 hrs

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 programmes 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 Science, healthful and sanitary housing, air quality management, control of rodents, arthropods and insects, and occupational health.

Course Objectives:

At the end of the course, the learner will be 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 Science.
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.

Contents:

Unit: 1. Environmental Health Concepts

[20]

Sub-unit 1: Define Terminology

1. Define:
 - a. Environment
 - b. Environmental Health
 - c. Environmental Sanitation
 - d. Environmental Pollution
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.

Sub-unit 2: Relation of Environmental Health

1. Describe the relationship between environment and health.
2. Define the terms: agent, host, and environment.
3. Give examples of agent, host and environment.
4. Give examples of diseases which have become more common because of changes in the land use, population migration, or environment in Nepal.

Sub-unit 3: Environmental hazards and effects

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.

Sub-unit 4: Basic environmental threats

1. Discuss basic environmental threats in Nepal
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.

Unit: 2. Water**[20]****Sub-unit 1: Introduction of Water**

1. State the value requirement, nature and cycle of water
2. Define safe and wholesome water
3. Identify the uses of water

Sub-unit 2: Source of water

1. Identify various sources of water
2. Identify merits & demerits of different sources.
3. Discuss the reasons why some areas of Nepal experience water shortages more often now, than 40 years ago.
4. Explain the relationship between deforestation and water shortages in Nepal.
5. Relate water shortages with quality of life and health.
6. Discuss ways to prevent water shortages.

Sub-unit 3: Water pollution

1. Define water pollution
2. Describe causes of water pollution
3. Explain the prevention of water pollution
4. Identify important water borne diseases.

Sub-unit 4: Purification of water

1. Describe different ways to achieve water purification.
2. Describe different methods of water purification at the household level.
3. Describe how to disinfect well water.
4. Describe the methods of water purification on a large scale.
5. Describe the features of a sanitary well

Sub-unit 5: Water quality

1. State the criteria and standards for water quality according to WHO and the Ministry of Health.
 - a. List the standards for good physical quality

- b. List the standards for good chemical quality
- c. List the standards for good biological quality
2. Give examples to illustrate low quality in each classification.

Unit: 3. Waste

[10]

Sub-unit 1: Introduction of waste

1. Define waste
2. Give examples of solid waste and identify their sources.
3. Give examples of liquid wastes and identify their sources.
4. Give examples of hazardous wastes and identify their sources.

Sub-unit 2: Solid waste

1. Identify examples of biodegradable and non-biodegradable solid wastes in Nepal.
2. Describe national efforts in Nepal and other countries 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.

Sub-unit 3: Solid waste Management

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. Identify the advantages and disadvantages of each method of solid waste disposal.

Sub-unit 4: Hazards of solid waste

1. Denitrify both health hazards and environmental hazards created by solid waste mismanagement.
2. Give examples when solid waste mismanagement resulted in health problems in other countries.
3. Identify an example of solid waste mismanagement in your own community.

Sub-unit 5: Hospital waste management

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.
3. Describe the correct management of hospital wastes.
4. Describe the characteristics of a safe needle disposal system.
5. Describe the management system of liquid and solid wastes at your clinical setting.

Unit: 4. Food Science

[8]

Sub-unit 1: Concept of food Science

1. Define food Science.

2. Explain importance/ application of food Science.
3. Identity different food Science methods.
4. Discuss rules for food handling, which ensure sanitary, hygienic conditions of eating-places.
5. Tell which branch of government has responsibility and authority for evaluating sanitation of public eating places and food preparation industries.

Sub-unit 2: Food borne disease

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 injected with food.
5. Differentiate between food borne infections and bacterial food poisoning.

Sub-unit 3: Sources of food contamination.

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.

Sub-unit 4: Food Preservation.

1. Define food preservation
2. Identify purpose of food preservation.
3. Describe different methods of food preservation.

Sub-unit 5: Food additives, food fortification and food adulteration.

1. Define food fortification.
2. Explain importance/ application 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.

Unit: 5. Air

[4]

Sub-unit 1: Introduction of air pollution.

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.

Sub-unit 2: Prevention and control of pollution.

1. Describe measures for the prevention and control of air pollution.
2. Identify methods for disinfection of air.

Sub-unit 3: Major issue in air pollution.

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.

Unit: 6. Entomology

[4]

Sub-unit 1: Introduction of Entomology.

1. Define entomology and medical entomology
2. Identify medically important arthropods and insects.
3. Identify arthropod and insect borne diseases.
4. Describe the transmission of each of the common arthropod/insect borne diseases.

Sub-unit 2: Arthropod borne diseases and its control

1. Describe principles of arthropod control.
2. Describe the measures to control arthropod and insect diseases.
3. Identify diseases caused by: mosquito, housefly, bed bug; redevid bug, hard tics, soft ticks, trombiculid mites, itch, mites, cycleps, cockroaches, louse, and fleas.
4. Identify the actions of different types of insecticides and repellents.

Unit: 7. Occupational Health

[4]

Sub-unit 1: Occupational diseases

1. Describe common occupational diseases in Nepal.
2. Describe the clinical features and causes of these occupational diseases.
3. Describe three forms of prevention of occupational diseases and give an example of each.

5. Basic Medical Procedures & Pharmacology

S. N.	Subject	Theory Hour	Practical Hour	Total Hour
5.1	Basic Medical Procedures / First Aid	85	25	110
5.2	Basic Dental Pharmacology	10	0	10
	Total	95	25	120

5.1 Basic Medical Procedures / First Aid

Contents:

Note: Contents retrieved from sub unit 5 to 8 and 10 to 22

Unit 1: Basic Medical Procedures

Sub-unit:5. Administration of oral and topical medicines

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 meds.
8. Describe the procedure for administering meds into the eye, ear, nose, rectum, vagina or onto the skin.
9. Discuss procedures for recording medication administration.
10. Demonstrate administration of meds by all of the above routes according to guidelines.

Sub-unit: 6. Administration of IM & IV medicines

1. List the advantages and disadvantages of medicine administration by the intramuscular (IM) and intravenous (IV) routes.
2. Identify the types of medicine 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 medicine 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 medicines, 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 medicines by the above routes according to guidelines.

Sub-unit: 7. Medical-surgical asepsis

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 hand-washing technique, according to guidelines.
5. State the principles and rationale for using careful hand-washing.
6. Discuss when to use different kinds of hand-washing procedures.
7. Demonstrate aseptic technique when using instruments for an aseptic procedure.
8. Demonstrate handling sterile instruments during a sterile procedure.

Sub-unit: 8. Invasive Procedures

1. State the risks to a patient with each of these invasive procedures: urinary catheterization,
2. Intravenous insertion, nasogastric insertion.
3. Explain what is meant by implied consent.
4. Discuss ways to make the invasive procedures less uncomfortable for the patient.
5. Tell the signs of complications for each of these invasive procedures.
6. Demonstrate these procedures according to the guidelines.

Sub-unit: 10. Dehydration, heat reaction, altitude sickness, hypothermia, frostbite

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.

Sub-unit: 11. Animal bites, stings and poisoning

1. Discuss the incidence of injury due to animal bites, stings and poisoning.
2. Explain the importance/ application of capturing and/or identifying the snake, animal or poison which harmed the casualty.
3. Discuss indications that a casualty is or may have a severe allergic reaction to an insect sting.
4. Describe the appropriate management for cases of animal bites, stings or poisoning.
5. Discuss why a tourniquet is no longer used for snakebite, and describe the recommended management.
6. Tell when vomiting is NOT an appropriate way to manage poisoning.
7. Discuss why small children are at a high risk for poisoning, and how to prevent this.
8. Describe the recommended use of emergency medications for bites, stings and poisons.

9. Describe indications that the casualty should be removed to a higher level medical facility immediately.
10. Discuss ways to reduce the incidence of bites, stings and poisonings through community education.

Sub-unit: 12. Fractures, splints, immobilization

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.

Sub-unit: 13. Wounds, burns and bandaging

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.

Sub-unit: 14. Hemorrhage

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 and thoracic.
4. State the interventions for stabilization of the person with severe blood loss.
5. Describe the precautions to use when transporting a patient who has had severe blood loss.

Sub-unit: 15. Management of severe breathlessness

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.

Sub-unit: 16. Heart attack

1. Describe the pathophysiology 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.

Sub-unit: 17. Epileptic seizure

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.
6. Demonstrate correct positioning to maintain the airway of an unconscious person.
7. Describe indications for immediate transport of the casualty for higher level care.
8. Discuss measures to educate the community about prevention and treatment for seizures.

Sub-unit: 18. Concussions and Stroke (CVA)

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.

Sub-unit: 19. Assessment of unconscious person

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.
5. Explain why the Health Assistant 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.

Sub-unit: 20. Choking and obstructed breathing

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.

Sub-unit: 21. CPR for drowning, cardiac arrest

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.
9. Describe how to remove stomach contents from the victim of drowning, in order to increase ventilation by CPR.

Sub-unit: 22. Multiple casualty/ multiple injury triage

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/ application.
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.

Practical**25 hours**

1. Demonstrate and perform proper techniques of vital signs assessment
2. Perform history taking and physical examination
3. Demonstrate administration of IM and IV medicines with proper safe needle disposal
4. Demonstrate and perform basic first aid procedures
5. Demonstrate and perform CPR and emergency case management

5.2 Basic Dental Pharmacology

Theory Total: 10 hrs

Practical Total: 0 hrs

Contents:

Unit 1: Definition & Routes of Drug Administration

Sub Unit 1: Dental pharmacology & drugs administration 4 hrs

1. Define pharmacology & drugs
2. List different routes of administration with their advantage and disadvantages.
- 3 Discuss in brief about pharmaco dynamics and Pharmaco Kinetics of Drugs.

Unit 3: Drugs use in dentistry - Local Anesthesia 6 hrs

1. Definition of local Anesthesia
2. Ideal requirements of local Anesthesia
3. Composition of local Anesthesia
4. Uses of local Anesthesia
5. Classification of local Anesthesia
6. Instruments used to deliver local anesthesia
7. Adverse reaction (Toxicity)

6. Food and Nutrition

Theory Total: 50 hrs

Practical Total: 2 hrs

Course Description:

This course aims to orient the students about the basic knowledge on food and nutrition. It also provides knowledge about nutritional aspects of oral health with emphasis on oral manifestation of different nutritional deficiency and to prevent them and also be able to recommend proper dietary habits.

Course Objectives:

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

1. Acquainted with the basic concepts of food and nutrition
2. Describe protein, vitamins, minerals with emphasis on deficiency and adverse reactions in relation to oral manifestations
3. Perform prevention of nutritional deficiency.

Contents:

Unit I: Orientation to Food and Basic Nutrition

[20]

Sub Unit 1: Basic Concepts about Food and Nutrition Carbohydrate

1. List the source and function of carbohydrate.
2. Mention the recommended dietary allowance.
3. List different deficiency (emphasis on oral manifestation)
4. Mention adverse reaction (emphasis on oral manifestation)

Sub Unit 2: Proteins

1. List the source and function of proteins.
2. Mention the recommended dietary allowance.
3. List different deficiency (emphasis on oral manifestation)
4. Mention adverse reaction (emphasis on oral manifestation)

Sub Unit 3: Vitamins (Water Soluble & Fat Soluble)

1. List source & function of vitamins.
2. Mention the recommended dietary allowance
3. List different deficiency (emphasis on oral manifestation)
4. Mention adverse reaction (emphasis on oral manifestation)

Sub Unit 4: Minerals & Water (Iron, Zn, Ca, Phosphorus)

1. List source & function of minerals & water.
2. Mention the recommended dietary allowance
3. List different deficiency (emphasis on oral manifestation)
4. Mention adverse reaction (emphasis on oral manifestation)

Sub Unit 5: Vitamins /Minerals/ Water (requirement for calcified structure/oral soft tissues/ salivary glands)

Unit 2: Nutritional Aspects of Oral Health

[20]

Sub Unit 1: Nutritional Aspects of dental caries, causes and prevention

1. Explain the roles the tooth, saliva, food and plaque play as factors in the caries process
2. Identify foods that stimulate salivary flow
3. Suggest anti-cariogenic food choices to modify a cariogenic diet
4. Describe the characteristics of some foods that are non-cariogenic
5. Provide dietary counseling to a patient who is at risk of dental caries.

Sub Unit 2: Nutritional Aspects of gingivitis and periodontal diseases

1. Identify the role nutrition plays in periodontal health and diseases
2. Discuss the effects of food consistency and composition in periodontal diseases
3. Describe the etiologic factors associated with gingivitis and periodontitis
4. Identify the major structure of periodontium
5. Discuss the components of nutritional counseling for periodontal patient

Sub Unit 3: Nutritional Aspects of alterations in the oral cavity

1. Describe the common signs and symptoms of xerostomia and glossitis
2. List different factors contributing to xerostomia and glossitis
3. Determine the appropriate dietary recommendations for a patient with xerostomia and removable appliances
4. Know about dietary guidelines to be given to a new denture patient both pre and post insertion

Sub Unit 4: Nutritional Assessment counseling for dental Science patient

1. Discuss the importance/ application of thorough health social and dental history
2. Describe the components needed to assess the nutritional status of a patient
3. Formulate a dietary treatment plan for a dental problem influenced by nutrition
4. Describe the steps in a nutritional counseling session
5. Discuss several communication skills that are helpful for the dental hygienist to employ when counseling a patient

Unit 3: Considerations of clinical nutrition

[10]

Sub Unit 1: Nutritional requirements affecting oral health in females

1. Discuss about nutritional deficiencies and their impact on tooth and oral development
2. List various nutrients that are usually supplemented during pregnancy and lactation

Sub Unit 2: Effects of systemic diseases on nutritional status and oral health

1. Discuss about the major oral problems (signs and symptoms) associated with systemic diseases of systemic basis
2. Recognize disease and conditions that are likely to affect nutritional intake
3. Discuss appropriate dental Science instructions for patient with systemic disease or conditions having oral manifestation

4. Identify nutritional recommendation for patient with disease or conditions with oral manifestation

Practical exercises

2 hours

1. Demonstrate and prepare diet chart for patient
2. Prepare food pyramid chart
3. perform diet counselling

7. Health Office Management

Theory Total: 50 hrs

Practical Total: 0 hrs

Course Description:

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

Course Objectives:

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

1. Identify dental health care systems in Nepal.
2. Explain the theories, principles and components of dental health management.
3. Describe the national dental health policy, tell its philosophy, and identify its strengths and weaknesses.
4. Apply the principles of logistics management and quality assurance to dental health unit management.
5. Manage a dental health office/unit in the real setting.
6. Identify the different levels of dental health manpower in Nepal and describe the functions of the dental health manpower development institute.
7. Explain the goals and functions of the dental health related governmental organizations, non-governmental organizations (NGO's), international non-governmental organizations (INGO's) and international agencies that serve in Nepal.
8. Identify current national and international dental health issues.
9. Explain the code of ethics of the Dental Hygienist.

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, Tribuvan University, Kathmandu. 1990.

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.

Contents:

Unit 1: Health care system in Nepal [6]

Sub-unit 1: Health Care System

1. Define “dental health care system” and tell the purpose and characteristics of a dental health care system.
2. Describe the history of the development of dental health services in Nepal.
3. Describe ayurvedic, homeopathic and allopathic approaches to dental health care.
4. Identify situations when the most appropriate type of dental treatment might be ayurvedic care, homeopathic care, allopathic care, or a combination of these.

Unit 2: Fundamentals of Health Management [12]

Sub-unit 1: Introduction to Health Management

1. Define management health management and dental health management
2. Differentiate between “setn” management & administration.
3. Describe the function of management.

Sub-unit 2: Planning of Health Service

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.

Sub-unit 3: Organizing of Health Service

1. Describe the process and purpose of organization.
2. Identify different types of health service organizations.
3. Explain the different types of dental health service in Nepal.

Sub-unit 4: Principles of Leadership

1. Discuss the characteristics and advantages/disadvantages of each of the leadership styles:
 - a) Autocratic
 - b) Democratic
 - c) Laissez faire

Sub-unit 5: Staffing

1. State the purpose of using a job description.
2. Identify the elements of a job description.
3. Tell why you support or disagree with the statement, “experienced staffs are experts in their role.”

Sub-unit 6: Directing

1. Describe the meaning and purpose of delegation of authority.
2. Discuss the relationship between delegation and authority.
3. Identify the process and limits of delegation.

Sub-unit 7: Supervision

1. Describe the objectives and methods of supervision.
2. Identify different types of tools use in supervision.
3. Describe the process of supervision.
4. Describe methods of monitoring.
5. Identify steps of a monitoring program.

Sub-unit 8: Coordination

1. Define coordination in terms of dental health management.
2. Identify different types of coordination.
3. Identify the techniques and processes of coordination.

Sub-unit 9: Disaster Coordination

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.

Sub-unit 10: Reporting

1. Discuss the purpose of dental health office/unit reporting.
2. Describe the qualities of an effective dental health office report.
3. Prepare a simulated dental health office/unit report from a case example.
4. Describe the process of dental health reporting in Nepal.

Sub-unit 11: Budgeting

1. Discuss the purpose for using a budget in dental health management.
2. Identify and compare different types of budgets.

Unit 3: Dental offices Management**[12]****Sub-unit 1: Training**

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 how to plan, conduct & evaluate the training program of subordinate & volunteers

Sub-unit 2: Conduct Staff Meeting

1. Describe how to identify the need for a meeting.
2. Tell how to decide what to include on a meeting agenda.
3. Describe how to plan for an effective meeting.
4. Describe the strategies for conducting and effective meeting.

Sub-unit 3: Financial Management

1. Discuss the purpose and procedures for financial management.
2. Prepare an annual budget from a simulated example.
3. Demonstrate how to maintain records of income and expenditure.
4. Demonstrate how to prepare monthly / quarterly and annual financial statements.

Sub-unit 4: Leave Management

1. Identify different types of employee leaves.
2. Describe the procedure for making a request for leave.
3. Demonstrate how to maintain records of staff leave.
4. Discuss the reasoning used before giving approval of staff leave.

Sub-unit 5: Logistic Management

1. Explain the purpose of logistics management.
2. Describe the Logistic Management Information System (LMIS) practiced in Nepal.
3. Describe the “six rights” of logistic management.
4. Explain logistic cycle.

Sub-unit 6: Inventory Management

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 / dental 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.

Sub-unit 7: Quality Assurance

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.
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.

Sub-unit 8: Performance Evaluation of Staff

1. Discuss the purposes and benefits of regular staff performance evaluations.
2. Explain the importance of writing a clear and complete staff job description.
3. Develop staff job descriptions for a simulated example.
4. Develop a staff performance evaluation checklist based on the job description.
5. Describe how to effectively give a job assignment.
6. Identify indicators of a good job performance.
7. Role-play ways to counsel the staff, who has poor job performance.

Sub-unit 9: Space Management

1. Discuss how to assess workspace required for various Dental offices activities.
2. Demonstrate how to arrange a flow chart of each activity.
3. Describe ways to arranging space as per activities.
4. Demonstrate how to make a map of a catchment area.

Sub-unit 10: Time Management

1. Describe how to compute staff workload.
2. Demonstrate how to prepare a timetable of Dental unit activities.
 - a. Weekly
 - b. Monthly
 - c. Quarterly
 - d. Yearly

Sub-unit 11: Letter Writing

1. Identify different types of letters and discuss the purposes of each.
2. Identify the good and poor attributes of a letter.
3. Write selected official letters based on a simulated example.

Sub-unit 12: Problem Solving

1. Define problem and problem solving.
2. Identify steps of problem solving.
3. Apply the steps of problem solving to a real or simulated case.
4. Describe common mistakes of using the problem solving method.

Sub-unit 13: Health Management Information System (HMIS)

1. Explain the purpose of the 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.

Sub-unit 14: Human Resource Management (HRM)

1. Explain the purpose of the HRM.
2. Identify the important benefits of this system.
3. Describe process of HRM
4. Explain the use of the different types of HRM forms.

Unit 4: Health related organization

[5]

Sub-unit 1: International Non-Governmental Organizations (INGO's)

1. Identify the activities and goals of INGO are working in health sectors.
2. Identify their role in promoting the health care system.

Sub-unit 2: National Non-Governmental Organizations (NGO's)

1. Identify the activities and goals of NGOs working in health & health related sector.
2. Identify their roles in promotion of the health care system.

Sub-unit 3: International Agencies

1. Identify international bilateral & multilateral agencies.
2. Identify their roles and activities in health sectors.

Unit 5: National Health Policy and Health Programs

[5]

Sub-unit 1: Various Health Programmes

1. Identify the objectives and activities of national health programmes.

Unit 6: National Health Policies in Nepal

[5]

Sub-unit 1: National Health Policy

1. Describe components of the National Health Policy 1991.
2. Describe the current five-year plan.
3. Describe Nepal's long term health plan.

Unit 7: Health Issues & Professional Practice

[5]

Sub-unit 1: Professional Practice

1. Define and describe the code of conduct for Dental Hygienist.
2. Explain the purpose of a code of conduct.
3. Describe the formation, activities and functioning of the Nepal Health Professional Council (NHPC).

Sub-unit 2: Entrepreneurship

1. Discuss the concept of entrepreneurship.
2. Discuss how the community and dental office might benefit if the Dental Hygienist began a private profit making business in addition to his role as Dental health unit chief.

3. List types of businesses a Dental health unit chief might operate.
4. Identify the potential opportunities for unethical action to occur when the Dental Hygienist works simultaneously at two jobs.
5. Discuss ways to prevent unethical occurrences by the Dental Hygienist/ entrepreneur.

8. Dental Public Health and Jurisprudence

Theory Total: 50 hrs

Practical Total: 24 hrs

Course Description:

This course is aimed at focusing the student's concentration on preventive oral health and the ethical issues connected with dental practice. The importance of preventive care and the means of achieving it emphasized in detail.

Course Objective:

After Completion of course the student will be able to:

1. Acquire knowledge on preventive oral health and advocating it
2. Understand the ethical considerations surrounding the dental profession

Contents:

Unit 1: Dental Public Health

[20]

Sub-Unit 1: Introduction

1. Define Public health and Dental Public Health
2. List the Principles followed in Dental Public Health Practice
3. List the forms of Dental Health Services
4. Briefly discuss characteristic Public Health Techniques
5. List and Discuss the Tools of Dental Public Health
6. Differentiate between Community Health Work and Private Practice

Sub-Unit 2: Dental Epidemiology

1. Define epidemiology and describe dental epidemiology
2. List and discuss the scientific methods and tools in dental epidemiology

Sub-Unit 3: Etiology & prevention of dental caries

1. Define prevention of dental caries
2. Enlist and discuss the etiologic factors of Dental Caries
3. Describe the role of Diet in Dental Caries
4. Briefly describe the Caries Process
5. List and briefly discuss Mechanical measures of Caries Control
6. List and briefly discuss Levels of Prevention of Dental Caries

Sub-Unit 4: Fluorides in Preventive Dentistry

1. Describe Fluoride
2. Briefly discuss the sources of Fluoride for adults and children
3. Discuss the Metabolism of Fluoride
4. Describe the Mechanism of Action of Fluorides in Caries Reduction
5. List the Fluoride delivery methods
6. List the briefly discuss the Topical fluorides used in Preventive Dentistry
7. List the Fluoride vehicles

8. Describe the Modes of Action of Fluoride
9. Briefly discuss Toxicity of fluoride
10. Briefly discuss Community water fluoridation and school water fluoridation

Sub-Unit 5: Epidemiology, Etiology & Prevention of Periodontal Diseases

1. List and briefly discuss the Etiology of Periodontal Diseases
2. List and briefly discuss the Risk factors in Periodontal Disease
3. Describe the Prevention of Periodontal Diseases

Sub-Unit 6: Epidemiology, Etiology & Prevention of Oral Cancer

1. Introduction to Oral Cancer
2. Discuss the Prevalence and Incidence of Oral Cancer
3. List and briefly discuss the Etiology of Oral Cancers
4. Discuss the Prevention and Control of Oral Cancer
5. Discuss the effect of tobacco, smoking, and betel nut on oral health and in oral cancer

Sub-Unit 7: HIV Infection, AIDS and Oral Health

1. Define HIV, its pathogenesis and Epidemiology
2. Discuss the oral manifestations of HIV
3. Briefly discuss the prevention measures

Sub-Unit 8: Indices used in Dental Epidemiology

1. Define Indices
2. List and discuss the indices used in Oral Science Assessment, Gingival Diseases, Periodontal Disease, Dental Caries and Treatment Needs

Sub-Unit 9: Behavior and its management in Public Health Dentistry

1. List and discuss the factors influencing preventive behavior
2. List the Behavioral characteristics of a normal child
3. List the categorical rating of behavioral patterns
4. Discuss how Behavior management can be achieved in public health dentistry

Sub-Unit 10: School Dental Health Programs

1. Describe a school dental health program
2. List and briefly discuss the aspects of School Health Services
3. List and discuss the important elements of school dental health program
4. Define Incremental and Comprehensive dental care

Sub-Unit 11: Survey Procedures

1. Define Survey and list its types
2. Define Basic oral health survey and Pathfinder Survey

Sub-Unit 12: Dental Manpower and Dental Auxiliary Personnel

1. Define dentist, dental specialist
2. Define dental auxiliary and briefly discuss its classification
3. List the degrees of Supervision of Auxiliaries

Sub-Unit 13: Occupational Hazards and Infection Control in Dentistry

1. Define Immunity
2. List the factors affecting disease
3. Enumerate the Transmissible Infections in Dentistry
4. List the categories of Task in relation to risk
5. Discuss in detail personal barrier technique for infection control
6. Discuss disposal of clinical waste

Unit 2: Extended Services

[10]

Sub-Unit 1: Atraumatic Restorative Treatment (ART).

1. Introduce Atraumatic Restorative Treatment (ART)
2. Define Atraumatic Restorative Treatment (ART)
3. List instrument & material used in ART
4. Describe ART technique in details
5. Explain advantages and limitations of ART
6. Carry out referral services.

Sub-Unit 2: Perform Extraction of grade III mobile permanent teeth and deciduous teeth.

1. Define exodontias
2. Take brief history of patient
3. Explain indications, contraindications of extraction procedure.
4. Discuss briefly local & systemic contra indication during extraction
5. Explain indications and contraindications for grade III mobile teeth and deciduous teeth extraction
6. Define local anesthesia, classify, study composition, uses & complications in detail
7. Describe chair position.
8. List the instrument for grade III mobility and deciduous tooth
9. Explain principles of instrumentation
10. Describe the procedure of grade III mobility and deciduous tooth extraction
11. Explain the debridement or irrigation of socket.
12. Explain post extraction instruction,
13. Explain post extraction complication
14. Carry out referral services.

Unit 3: Dental Jurisprudence

[20]

Sub-Unit 1: Law, Rights, Jurisprudence

1. Law
2. Classification of Laws
3. Rights
4. Legal Rights
5. Human Rights
6. Patient Rights
7. Jurisprudence

Sub-Unit 2: Health

1. Definition of Health
2. Health Service in Nepal

Sub-Unit 3: Health related Acts and Regulations of Nepal Government

1. Nepal Health Service Act -2053
2. Nepal Medical Council Act – 2020
3. Nepal Health Professional Council Act -2053
4. Council for Technical Education & Vocational Training Act - 2047
5. Drug Act & Regulation – 2035
6. Consumer Protection Act - 2053

Sub-Unit 4: Ethics

1. Code of Ethics of Nepal Medical Council
2. Code of Ethics of Nepal Health Professional Council

Sub-Unit 5: Dental Health

1. Dental Practice & Profession
2. Branches of Dentistry
3. Dental health service in Nepal
4. Dental health awareness
5. Role of Dental Health Auxiliaries
6. Duties of Dental Health Auxiliaries
7. Working fields of Dental Health Auxiliaries
8. Drugs prescribed by Dental Health Auxiliaries
9. Certification, Registration & Limitation of the Dental Health Auxiliaries
10. Professional conduct of the Dental Health Auxiliaries

Sub-Unit 6: Dental Jurisprudence

1. Iatrogenic problems
2. Medication errors
3. Accidents caused in dental office

Sub-Unit 7: Dental Fraud & Crimes

1. Malpractice & quackery
2. Compensation cases
3. Sexual crimes & harassments caused by dental professionals

Sub-Unit 8: Forensic Dentistry

1. Definition & Scope
2. Criminal cases
3. Accident cases
4. Mass disaster / Teeth identification
5. Natural death identification

Sub-Unit 9: National/International Dental Health Authorities

1. Nepal Medical Council
2. Nepal Health Professional Council
3. Nepal Dental Association
4. World Health Organization
5. FDI International Dental Federation
6. American Dental Association
7. Dental Council of India
8. General Dental Council (UK)
9. International Federation of Dental Hygienists (IFDH)
10. Nepal Dental Hygienist Association

Practical

24 hours

1. Demonstrate and perform ART
2. Describe and perform the procedure of grade III mobility and deciduous tooth extraction [Extraction of grade III mobile tooth or deciduous tooth of which all possible ways of retaining/treating/correcting (saving) has been ruled out by a qualified dentist & is only been left with an option but to extract it is being given in a written order after the patient has been delivered a test dose of LA & is also been clinically proved of safe with LA administration by him also been proved safe of all clinical condition & under his supervision. (Extraction with local infiltration only)]
3. Explain post extraction instruction and complication to patient
4. Carry out referral services
5. Demonstrate and perform topical fluoride application

9. Comprehensive Professional Field Practice

A Comprehensive Clinical Practice Objectives

(In hospital setting)

Course description

This course is designed to help students to apply the knowledge and skills in the actual professional field practice in the clinical/hospital setting.

Course objective

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

1. Give education and advice on preventive dental health to the patients/people.
2. Perform manual scaling
3. Perform ultrasonic scaling
4. Perform tooth polishing
5. Give fluoride application
6. Prescribe oral medicaments and give oral Science instructions.
7. Give dietary advice
8. Perform sterilization and maintenance of dental instruments and materials respectively
9. Assist the dental surgeon in various dental procedures
10. Take IOPA radiographs, Bite wing X-ray radiographs, Occlusal X-ray radiographs
Panoramic (OPG) X-ray radiographs Cephalogram X-ray radiographs
11. Take photographs dental photographs
12. Perform basic first aid procedures in the clinical/hospital setting.
13. Overlook and manage the dental office
14. Perform Automatic Restorative Treatment (ART)
15. Perform grade III mobile teeth and deciduous teeth extraction

Placement schedule

Students will be deputed to hospital for the period of **12 weeks** in the following subject area

<u>S. N.</u>	<u>Subjects/Area</u>
1.	Basic Periodontology
2.	Food and Nutrition
3.	Dental Pharmacology
4.	Dental Radiography and Photography
5	Dental Public Health and Jurisprudence
6	Dental Materials, Instruments and Assisting
7	Basic Medical Procedures / First Aid

Skills to be performed

1. For the completion of the comprehensive clinical practice in hospital setting, the students have to:

- 1.1. Give education and advice on preventive dental health to the patients/people.
- 1.2. Perform manual scaling for at least 10 patients

- 1.3. Perform ultrasonic scaling of at least 10 patients
- 1.4. Perform tooth polishing of 5 patients
- 1.5. Give fluoride application on 2 patients.
- 1.6. Prescribe oral medicaments and give oral Science instructions 10 patients.
- 1.7. Give dietary advice to at least 5 patients.
- 1.8. Perform sterilization and maintenance of dental instruments and materials respectively
- 1.9. Assist the dental surgeon in various dental procedures in at least 10 cases
- 1.10. Take IOPA radiographs in 10 patients, Bite wing X-ray radiographs in 2 patients Occlusal X-ray radiographs Panoramic (OPG) X-ray radiographs Cephalogram X-ray radiographs in 1 patient each
- 1.11. Take photographs dental photographs of at least 2 patients
- 1.12. Perform basic first aid procedures in the clinical/hospital setting.
- 1.13. Overlook and manage the dental office
- 1.14. Perform Automatic Restorative Treatment (ART) at least 10 patients
- 1.15. Perform grade III mobile teeth and deciduous teeth extraction at least 10 patients

B. Comprehensive Clinical Practice (In Community)

Course description

This course is designed to help students to apply the knowledge and skills in the actual professional field practice in community.

Course objective

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

1. Perform manual scaling and give oral health education
2. Give oral health education
3. Give education and advice on preventive dental health to the patients/people.
4. Perform manual scaling
5. Prescribe oral medicaments and give oral Science instructions
6. Give fluoride application.
7. Perform sterilization and maintenance of dental instruments and materials respectively
8. Give dietary advice
9. Perform OHI and CPITN
10. Perform DMFT
11. Perform basic first aid procedures in the community.
12. Perform Automatic Restorative Treatment (ART)
13. Perform grade III mobile teeth and deciduous teeth extraction

2. For the completion of the comprehensive clinical practice in community, the students have to:

- 2.1. Perform manual scaling and give oral health education attending at least 2 dental camps
- 2.2. Give oral health education by attending at least 2 school oral health programs
- 2.3. Give education and advice on preventive dental health to the patients/people.
- 2.4. Perform manual scaling at least 10 patients in the community

- 2.5. Prescribe oral medicaments and give oral Science instructions 10 patients.
- 2.6. Give fluoride application on 2 patients.
- 2.7. Perform sterilization and maintenance of dental instruments and materials respectively
- 2.8. Give dietary advice to 5 patients.
- 2.9. Perform OHI and CPITN on 10 patients each
- 2.10. Perform DMFT on 5 patients.
- 2.11. Perform basic first aid procedures in the community.
- 2.12. Perform Automatic Restorative Treatment (ART) at least 20 patients
- 2.13. Perform grade III mobile teeth and deciduous teeth extraction at least 20 patients

Evaluation

1. For both paper (Paper I & II) 50 % of each paper is allotted for internal assessment that will be given by the supervisor teacher from the college on the basis of practical site supervision plus report submitted by the student.
2. Final viva marks will be 50 of each subject. Out of which 25 marks in each paper will be given by the examiner (Dental expert) nominated by CTEVT and a rest of 25 marks of each subject will be given by the examiner (relevant subject teacher) of the institute.
3. The students must to pass the paper I and II separately.
4. The students must obtain minimum of 60 % marks in each paper both in internal assessment and final viva voice separately.

Note: Training institutes and students should follow the log book developed by NHPC for 6 Months comprehensive clinical practice.