

# Curriculum



## Curriculum for Diploma in Dental Surgery (DDS)

**Bangabandhu Sheikh Mujib Medical University  
Shahbagh, Dhaka.**



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1. Name of the course : **Diploma in Dental Surgery (DDS)**
2. Duration : Two academic years
3. Date of commencement : July of each year
4. Aims and objectives :
  - a. To prepare the specialist who would be able to meet and respond to the changing oral healthcare needs and expectation of the society.
  - b. To develop specialist who possesses knowledge, skills and attitudes that will ensure that they are competent to practice medicine, safely and effectively.
  - c. To ensure that they have appropriate foundation for lifelong learning and further training in their specialty.
  - d. To help them develop to be critical thinkers and problem solvers when managing health problems in the community they serve.

**5. Eligibility for admission:**

- a. BDS or equivalent degree recognized by BMDC
- b. Minimum 2 years after passing BDS or its equivalent degree.

**6. Admission Test:**

Entrance examination will be of MCQ type containing 60% question from basic subjects related to the practice of Dentistry & 40% from clinical Dentistry.

**7. Course content:**

Syllabus section of the curriculum & learning issue, describing the knowledge, skills & attitude that trainees need to learn.

**Paper I (Basics)**

- |                 |                          |
|-----------------|--------------------------|
| <b>Group A:</b> | 1. Basic Medical science |
|                 | 2. Basic Dental Science  |
| <b>Group B:</b> | 1. Dental Public Health  |
|                 | 2. Pediatric Dentistry   |

**Paper II**

**Group A :**

1. Conservative Dentistry & Endodontics
2. Prosthodontics

**Group B**

1. Orthodontics
2. Periodontology

**Paper III**

**Group A:**

1. Oral and Maxillofacial Surgery
2. Oral Pathology and Oral medicine

**Group B:**

1. Medicine
2. Surgery

**8. Training rotation:**

The total period will be divided into blocks & schedule would be as follows:

<b>Block</b>	<b>Specialty</b>	<b>Duration</b>
1	Preventive and Children Dentistry	4 months
2	Conservative Dentistry & Endodontics	4 months
3	Prosthodontics	4 months
4	Oral & maxillofacial Surgery	4 months
5	Orthodontics	4 months
6	Medicine And Surgery	2 months + 2 months

**9. Summative Examination:**

- 9.1 Summative or exit examination will be at the training program the date determined by the university, then every January and July
- 9.2 Three papers on written examination
- 9.3 Written questions: In each paper there will be four questions .Two of them will be Structured Essay Question type and two will be of SAQ, five in each question
- 9.4 Clinical – practical:

**Clinical:**

There will be one long case and minimum three short cases. In long case 30 minutes will be history taking and clinical examination of the case and 15 minutes for crossing by two examiners. Fifteen minutes will be allotted for short cases. Two examiners will assess the candidate in long case. Two examiners will assess short cases of opposite group of student.



**Practical:** 10 OSCE stations

## 9.5 Oral:

There will be two boards: In each board there will be two examiners. Fifteen minutes for each board equally divided into two examiners. There will be four examiners, associate professor and above .50% of the examiners will be external.

9.6 To pass, the candidate have to secure at least 60% in each of the three components of written (Three papers combined), clinical- practical and oral examination

<b>Components of examination</b>	<b>Paper</b>	<b>Marks allotted</b>	<b>Time</b>	<b>Pass mark</b>
a. Written	Paper –I	100	3 Hours	
	Paper–II	100	3 Hours	
	Paper–III	100	3 Hours	
	<b>Total</b>	<b>300</b>		
b. Clinical Practical (OSCE)		100 100		120
c. Oral		100		60
<b>Total</b>		<b>600</b>		<b>360</b>

**Assessments:****a. Formative assessment:**

- There will be formative assessment at the end of each four months of training by the supervisor/ department or by the institute.
- Satisfactory completion of block & 75% attendance in the course will be pre – requisite along with others for appearing in the final exit examination.
- Process of end block assessment:
  - Written test
  - Oral, clinical, practical, exam.
  - Log book evaluation

**10. The learning process:****Principle of learning:**

- Need based, problem oriented, structured learning
- Structured supervised outcome based training

- Learning in non- clinical aspects of the curriculum (Soft skills like professionalism ethical issues and others)

### **Teaching – Learning method:**

- Lecture
- Tutorial/ small group teaching.
- Interactive session/ Clinical meeting
- Seminar / Conference
- Clerkship, ward round. IPD,OPD, Pre-theater and theater training
- Skill training through different diagnostic and therapeutic multidiscipline clinic

## **11. Core Clinical Syllabus**

### **Anatomy:**

#### **General Anatomy.**

- Definition, subdivision of anatomy and its importance in the study of medicine, implications, subdivisions of anatomy with their anatomical

terminology and anatomical planes & positions.

- Skeletal system: bones and cartilages, their types, characters, situations, functions and development.
- Joint: component parts, classification, characteristics, stability, movements and clinical conditions associated with joints.
- Muscular system: classification, characteristics, functions and structure.
- Blood circulatory system: component parts, heart and blood vessels, general, portal and regional circulation.
- Lymphatic system.
- Digestive system: a general outline of its different parts with their function, including the digestive glands and associated organs.

**Histology :**

1. Cell biology
2. Histology
3. Basic tissue
4. Systemic Histology:

## Glands.

- Digestive system.
- Respiratory system.
- Vascular system.
- Lymphoid system
- Endocrine system.
- Nervous system.
- Special sense organs.
- Urinary system.
- Male reproductive system.
- Female reproductive system

**Physiology:**

1. **General Physiology**
  - A. Introduction
  - B. Cell and its function
  - C. Active & passive transport mechanism

## **2. General Biochemistry**

- i) Cell structure & transport through cell membrane.
- ii) Physicochemical phenomenon and solution.
- iii) PH Buffers
- iv) Isotopes
- v) Enzymes
- vi) Bioenergetics & biological oxidation

## **3. Blood & homeostasis**

## **4. Immune System**

## **5. Circulation**

## **6. Respiration**

## **7. Gastrointestinal & Hepatobiliary system**

- i) Secretion, composition & function of digestive juices
- ii) Digestion in the mouth, stomach & intestine.
- iii) Absorption of nutrients
- iv) Function of liver

**8. Metabolism**

- 1) Carbohydrate
- 2) Lipids
- 3) Protein

**9. Kidney, fluid & acid- base balance.**

- i) Renal function tests
- ii) Acid-base & water balance

**10. Endocrinology**

- i) General mechanism of hormone action
- ii) Thyroid and Pancreas
- iii) Glucose homeostasis

**11. Food & Nutrition**

- i) Proximate principal of food.
- ii) Vitamins
- i) Minerals
- iii) Dietary fibers

**12. Nervous system**

**13. Special sense**

**14. Temperature regulation**

**15. Musculoskeletal system** - Calcium, phosphorus and vit-D metabolism in relation to the skeleton

**16. Reproductive system.**

**Oral Anatomy and Histology**

1. Anatomy of Oro-facial region: mouth, pharynx, tongue, Face, Parotid region, Temporal region, muscles of mastication, Mandibular & Sub-mandibular region, Maxillary Sinus.
2. Basic histological features of Oro-facial region: Hard tissue such as Bone Cartilage and Joint. Soft Tissue such as basic tissues, oral mucosa, salivary gland, tongue with taste buds, masticatory muscles and lymph nodes.



**Oral physiology:**

1. Saliva and salivary gland; describe its formation, excretion and function
2. Mastication and masticatory apparatus.
3. Role of oral structures in articulation of speech.
4. Role of calcium, vitamin D, Para hormone, growth hormone in growth and maintenance of oral tissues
5. Special sense: Taste & Olfaction

**General Pharmacology:**

- a. Basic concept of Pharmacology
- b. Drugs acting on PNS
- c. Autacoids
- d. Drugs acting on CNS
- e. Drugs acting on renal and cardiovascular system
- f. Drugs acting on haemopoetic system
- g. Drugs acting on GIT
- h. Endocrine pharmacology
- i. Antimicrobial agent
- j. Essential drug concept and rational use of drugs

**Dental pharmacology:**

1. Dental pharmacology: Define drugs, doses, therapeutic index and sources of drugs, different dental drugs used in dentistry, dosages and administration of different dental drugs used in dentistry.
2. Local anesthesia, classification, uses, mode of action, routes of administration, indication, contraindication, adverse effect, advantages and disadvantages of local anesthetics used in dentistry.
3. Sterilization & disinfection of dental instruments. Define sterilization, aims and objects, classification, different methods of sterilization of dental instruments.
4. Fluorides: Define fluoride component, uses, mechanism of action of fluoride component
5. Mouth wash & Dentifrices. Define mouth wash & Dentifrices, state the ideal properties, composition, classification, adverse side effect of mouth wash & dentifrices used in dentistry.

**Science of Dental Material:**

1. Introduction of aims & objectives of the subject
2. Different terminology and properties of the materials.
3. Impression materials
4. Gypsum Products
5. Dental investment materials
6. Dental waxes
7. Separating medium.
8. Synthetic resins used in dentistry
9. Dental Ceramics and dental porcelain
10. Materials for Abrasion, polishing, and burnishing
11. Dental cements and filling materials
  - (a) Polymers Ceramic composite filling materials
  - (b) Tooth resin bonding agents-
  - (c) Dental Amalgam-
  - (d) Direct Gold filling-
  - (e) Endodontic filling materials-

12. Dental metallurgy
13. Metals and alloys used in dentistry-
14. Soldering, brazing, and welding

**Pathology:**

1. Cell injury
2. Inflammation
3. Wound healing
4. Haemodynamic Changes
5. Genetics
6. Adaptive changes
7. Neoplasia
8. Immune system

**Oral Pathology and Oral Medicine**

**I. Dental Caries**

Etiology, pathogenesis, classification, clinical presentation of dental caries

**II. Etiology, pathogenesis, classification, clinical presentation of gingivitis and periodontitis.**

**III. Oral mucosal lesions and Premalignant conditions**

Classification, etiology, pathogenesis and clinical presentation and treatment

**IV. Oral manifestations of different systemic diseases**

- a. Infectious diseases
- b. Diseases of different vital organs/systems – such as  
Kidney, liver, GIT, CNS, CVD, Endocrine and Dermatological Diseases  
Bleeding disorders

**V. Cystic Lesions of jaw and soft tissues**

Definition, Classification, etiology, pathogenesis and clinical presentation and treatment

**VI. Benign Tumour of the Mouth and Jaws**

Classification, etiology, pathogenesis and clinical presentation

**VII. Salivary Gland Diseases-**

Classification, etiology, pathogenesis and clinical presentation

**VIII. Diseases and disorders of the temporomandibular Joints**

Classification, etiology, pathogenesis and clinical presentation

**IX. Effect of endocrine and nutritional deficiencies in maxillofacial pathologies**

**X. Medically Compromised patients in Dentistry**

**XI. Relation of Oral and Dental problems associated with Systemic diseases**

**XII. Orofacial Pain-----**

Classification, Etiology and pathogenesis

**Dental Public Health:**

1. a) Prevention & control of periodontal diseases
- b) Oral health promotion

2. Prevention of dental trauma
3. Preventing the aging dentition geriatric dental condition
4. Prevention of dental handicap
5. Prevention of dental caries
6. Prevention of malocclusion, oral cancer, potentially malignant lesions.
7. Biostatistics
8. Dental epidemiology, Survey procedure & research methodology.
9. Dental manpower & ancillary personal.
10. Primary Health Care

**Pediatric Dentistry:**

1. Scope & importance of pedodontics.
2. Face Development, Chronology & Morphology of primary & permanent teeth.
3. History, diagnosis & treatment planning for child patient

4. Periodontal disease in children Disease of oral mucous membrane, soft tissues & other supporting structure
6. Hereditary, Nut rational, Chromosomal & hormonal factors & communicative disorders in children.
7. a) Child psychology & Management .  
b) Paint & anxiety control of children.  
c) Parent Counseling.
8. a. Occlusal development of primary & secondary dentition  
b. Preventive & interceptive orthodontics
9. The care of injuries to the anterior teeth of children.
10. a) Operative dentistry in children.  
b) Pulpal treatment in children.
11. Oral surgery in children.
12. Removable partial denture for the children
13. Oral habits in children.



14. Management of handicapped children  
Radiology in children
16. Dental caries & it's clinical prevention in  
Pediatric Dentistry

### **Conservative Dentistry & Endodontics**

1. Relevant Anatomy of dental hard & soft tissues such as enamel, dentine, cementum, periodontium, pulp and periredicular tissues.
2. Etiology, diagnosis and management of dental caries
3. Etiology, diagnosis and management of tooth wear such as abrasion, erosion, attrition and friction.
4. Etiology, diagnosis and management of tooth discoloration
5. Pulpal and periredicular pathology: bacteria, mechanical irritants, chemical irritants, pulp disease, classification of pulp and periapical disease.

6. Management strategy of pediatric patients in aspect of child psychology and behavior with parent counseling.
7. Introduction to management of traumatic injury in primary dentition.

### **Prosthodontics:**

#### **Complete Denture Prosthodontics**

1. Anatomy and physiology of edentulous mouth.
2. Diagnosis and treatment planning for a completely edentulous mouth.
3. Oral aspects of systemic diseases of Prosthodontic interest.
4. The problem of reduction of residual ridges.
5. Impressions in Complete Denture Prosthodontics.
6. Posterior palatal seal, principles and techniques.

7. Recording of mandibular movements and maxillo-mandibular relations in edentulous patients.
8. Selection and arrangement of anterior teeth including guidelines for complete denture esthetics.
9. Complete denture occlusion.
10. Selection and arrangement of posterior teeth.
11. Try in of complete dentures.
12. Laboratory procedures involved in complete denture construction.
13. Denture Insertion.
14. Patient's education and complete denture maintenance.
15. Complaints associated with dentures.
16. Relining and rebasing of dentures
17. Immediate dentures/ Transitional dentures/  
Over dentures.

**Partial Denture Prosthodontics**

1. Introduction and terminology used in partial denture Prosthodontics.
2. Examination, diagnosis and treatment planning in partial denture Prosthodontics.
3. Classification of partially edentulous arches.
4. Components of removable partial dentures and their function.
  - a. Major connectors
  - b. Minor connectors
  - c. Rests and rest seats
  - d. Direct retainers
  - e. Indirect retainers
  - f. Denture base considerations and teeth
5. Principles of removable partial denture (R.P.D) design and RPI concept.

**Fixed Prosthodontics**

1. Basic principles of tooth preparation.
2. Individual tooth preparation.

3. Metal, Porcelain fused to metal and all ceramic crown.
4. Preparations for extensively damaged or endodontically treated teeth.
5. Provisional or temporary restorations.
6. Fluid control and soft tissue management.
8. Impression materials and techniques.
9. Pontics design.

### **Maxillofacial Prosthodontics**

1. Classification of maxillofacial defects
2. Obturators

**Implants:**

Basic principles, objectives, indications, contraindications and their success

**TMDs and Occlusion:**

Aetiology, Pathophysiology and Management.

**Oral & maxillofacial Surgery:**

**I. Principle of Maxillofacial Surgery -**

-Establishment of Definitive Diagnosis

i) History

ii) Physical Examinations –G. Examination  
Local Examinations

iii) Investigations

iv) Treatment Planning

v) Surgical Treatment

vi) Follow-up

**II. Local Anaesthesia**

Classification, Mechanism of action

Types, local Anaesthesia techniques,  
Complications

**II. Biopsy and Techniques****IV. Dentoalveolar Surgery****A. Exodontia**

Closed extraction Technique,

Open Extraction Technique,

**B. Management of Impacted teeth**

- Classification, Assessment, Surgical techniques especially
- Impacted Mandibular Third molars
- Impacted Maxillary Third molars
- Impacted Maxillary Canine

**C. Surgical Endodontics**

Apisectomy, Implantation, Re –Implantation, Transplantation,

**D. Preprosthetic Surgery—**

Definition, Objectives, importance, Types, Preoperative assessment, Surgical Methods

**E. Dental Implant**

- Selection of patient,
- Types of implant
- Surgical techniques
- Prosthetic consideration

**V. Haemorrhage and bleeding control in Maxillofacial Surgery**

**VI. Maxillofacial Injuries**

Fracture of the Facial Bones

Incidence

Classification—

Dentoalveolar Fractures

Fracture of the Mandible,

Maxilla, Zygomatic bone,

Zygomatico orbital complex,

Fractures of the Middle third of the facial skeleton -

Clinical presentation, investigation and treatment

Primary management of facial fractures

Definitive management of facial fractures

Complications

**VII. Orofacial Infections**

Pericoronitis, Fascial Space in the face and

Neck - classification, Surgical Anatomy,

Source of infection, C/F, Investigation,

Management, Complications



**1. Osteomyelitis of the Jaws**

Classification-

Acute) steomyelitis

Chronic Osteomyelitis Sub types

**2. Osteoradionecrosis**

Etiology, C/F, Investigations and Management

**VIII. Jaw swellings**

1. Classification of Jaw swellings

2. Cystic swelling of the jaws

- Classification,
- clinical presentation,
- investigations
- Histopathology
- and treatment

**IX. Benign Tumors of the jaws –**

1. Odontogenic
2. Non Odontogenic
3. And others - such as fibro-osseous lesions

Including their clinical presentation, investigations Histopathologica features and treatment

## **X. Oral Malignancy**

Prediposing factors

Etiology

Clinical Assessment

Treatment

## **XI. Salivary Gland diseases**

Classification, Clinical presentations, Investigations, treatment

## **XII. Temporomandibular Joint Diseases**

--Surgical anatomy

--Classification

Trismus, Dislocations, Displacemnt, luxation, Subluxation, Internal Derrangement, Ankylosis and TMJ dysfunction Syndromre Includes—C/F, Investigation, Treatment

## **XII. Facial Deformity**

Classification of facial deformity

Cleft lip, palate and Cleft alveolus

Classification, management protocol

## **XIV. Management of medically compromised patient in maxillofacial surgery.**

## **XV. Management of Orofacial pain**

Classification,

Clinical Presentation

Investigations

Treatment

## **XVI. Oral mucosal lesions and premalignant lesions –**

Classification

Clinical Presentation

Investigations

Treatment

**Orthodontics:****A. Basic Orthodontics:**

- Introduction to Orthodontics:
- Prenatal Growth of Cranium, Facial & Oral Structure
- Postnatal Growth of Cranio facial Complex:
- Development of Dentition:
- Occlusion in Orthodontics:
- Malocclusion:
- Etiology of Malocclusion: Classification
- Branches of Orthodontics treatment:
- Biology of tooth movement-
- Mechanics of tooth movement
- Maturity indicator.
- Study of Growth & Growth prediction

**B. Clinical:**

- Orthodontic Study Model:
  - Tray selection, Impression taking & landmarks identification
- Study model & Base construction (Self)
  - Ideal study model
  - Use
  - Parts
- Model analysis
- Construction of Adams cribs, Labial bow, Base plate on model spring, S.S.buccal spring, Z spring & Retainer (Self)
- Patients' photographs taking (Extra & Intra oral)

**C. Problem based competence:**

- Diagnosis of patients problems
  - Essentials
  - Non essential
  - Computerized

**D. Skills / Procedure/ Interpretation:**

- Formulation of data based list from problem identification to treatment prediction
- Cephalometric tracing and analysis , OPG, P/A, Occlusal view & other X- Ray analysis
- Radiographs interpretation

**E. Patient management****F. Others requirements:**

- History sheets
- Log book
- Case presentation
- Journal club

**Periodontology:**

1. Introduction
2. Anatomy and physiology of periodontium
3. Periodontal Diseases
4. Etiology of chronic gingivitis and chronic periodontitis

5. Treatment plan of chronic Gingivitis and chronic Periodontitis
6. Gingival enlargement, gingival recession, Gingival Desquamation
9. ANUG
10. General conception of guided tissue regeneration (GTR), Grafting materials

**Medicine:**

1. Principles of management of Medical diseases
2. Diagnostic aspects: - History taking, Examination, Relevant investigations, Treatment planning.
3. Management of medical emergencies.
4. Diagnosis and management of medical conditions related to practice of dentistry
5. Management of different infectious conditions such as TB, STD, AIDS, Hepatitis B and C.

## **Surgery**

1. Principle of management General Surgical cases  
Diagnostic aspects:-  
History taking  
Examination  
Relevant investigations  
Treatment planning
2. Management of cranio-facial traumatic injuries.
3. Basic concept on management of hemorrhage, shock, fluid-electrolyte imbalance, respiration (airway clearance), breathing, ventilation.
4. Basic concept on pre-surgical management and preparation.
5. Management of oral complication of post surgical stages (debilitating and immunosuppressive conditions.)



**12. Procedural skill:****a. Conservative Dentistry:**

## i. Operative Dentistry:

Cavity Preparation	05
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(Each type)

Inlay Preparation	03
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Onlay	03
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Crown preparation	05
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## ii. Endodontics:

Root canal Treatment	10
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Pulp Capping	05
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Pulpotomy	05
-----------	----

Endo. Surgery	03
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**b. Orthodontics**

Impression Taking	05
-------------------	----

Model Preparation	05
-------------------	----

OPG analysis	05
--------------	----

Cephalometry analysis	06
-----------------------	----

Wire bending	25
--------------	----

(5 in each type)

Soldering	10
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Removable acrylic plate	10
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**c. Oral & Maxillo-Facial Surgery**

Surgical Extraction	05
Simple Extraction	20
Biopsy	05
Dento-alveolar fracture management-3	
Arch bar wiring	03
Local Anesthesia procedures	5
(Each type)	
Suture	05
Flap design	05
Radiological analysis	05
(Each type)	
C.T. Scan analysis	03

**d. Prosthodontics:**

Impression Taking	05
(each type)	
Model Preparation	06
(each type)	
Complete denture	03
RPD	10
Immediate Denture	02
Crown preparation	15
(different varieties)	
Inlay/Onlay	05
Maxillo-Facial Prosthesis	06
(Different types)	
Occlusal stabilizing appliances	02
Single tooth Implant (Observation)	01
Implant Supported FPD (Observation)	01

**e. Periodontology:**

Scaling	30
Polishing	20
Periodontal Curettage	20
Root Planning	05

**13. Writing case- note/ Operation note**

Each student will write case note of at least 10 patients (History, Examination, Investigation, Treatment including Operation note if any and follow up notes)

**14. Eligibility for appearing at the final examination:**

- Two years in course training
- 5 satisfactory 4 monthly report of formative assessment
- 75% attendance in lectures and other academic activities
- Satisfactorily completed log book and case notes



## Diploma trainee's Block progress report

Name of the trainee :                      Session :  
 Name of the course :                      Reg. No:  
 Name of the institute :  
 Period of block                      :

Performance	Poor	Satisfactory	Good	Excellent
Written*				
Clinical- Practical*				
Oral*				
Attendance*				
Attitude				

\* Poor: <50%, Satisfactory: ≥50-60%, Good: >60-75%, Excellent : >75%

**Note:** "Poor" grade in more than two performance during a particular block means deficient training and also cause disqualification for appearing in the final examination unless training in particular block is complete.

Signature: .....  
 Head of the Department  
 (Seal)