

Programme Structure

School of Dental Sciences MDS (Orthodontics and Dentofacial Orthopedics)

Programme Code: SDS0106 Batch : 2023-2026

SU/SDS/MDS- Orthodontics and Dentofacial Orthopedics Page 1



Programme Structure School of Dental Sciences Master of Dental Surgery (MDS) Batch: 2023-2026

S.	Paper ID	Subject	Subjects	,	Feaching I	Load	
No.		Code		L	Т	Р	Type of Course ¹ :
							1. CC
							2. AECC
							3. SEC
							4. DSE
THEO	RY SUBJEC	CTS					
1.	MDS305	MDS305	Orthodontics & Dentofacial Ort	0	3	45	СС
Practic	cal/Viva-Voc	e/Jury					
2.	MDS305	MDS305	Orthodontics & Dentofacial Ort	0	3	45	CC



School	School of Dental Sciences	
School	SCHOOL OF DENTAL SCIENCES Batch: 2023-2026	
Programme:	MASTER OF DENTAL SURGERY- ORTHODONTICS AND	
	DENTOFACIAL ORTHOPEDICS	_
1	Course Code	MD\$305
2	Credite	NA NA
3	Credits Contract Hours	0.2.45
4	Contact Hours	0-3-43
	(L-I-P)	Compulsory (Coro)
~	Course Type	Compulsory (Core)
5	Course Objective	 The dynamic interaction of biologic processes and mechanical forces acting on the stomatognathic system during orthodontic treatment. The etiology, pathophysiology, diagnosis and treatment planning of various common orthodontic problems. Various treatment modalities in orthodontics: preventive interceptive and corrective. Basic sciences relevant to the practice of orthodontics. Interaction of social, cultural, economic, genetic and environmental factors and their relevance to management of oro-facial deformities. Factors affecting the long-range stability of orthodontic correction and their management. Personal hygiene and infection control, prevention of cross infection and safe disposal of hospital waste, keeping in view the high prevalence of Hepatitis and HIV and other highly contagious diseases.
6	Course Outcomes	CO1 · Basic sciences: The students
0		should have a basic knowledge of
		should have a basic knowledge of

2.1 Module: Syllabus for Theory Subjects



	growth and development of craniofacial structures and their applied anatomy, physiology, pathology, genetics, physical anthropology and dental materials used in orthodontics.
	CO2: Research methodology and biostatistics : The students will know about the study designs, hypothesis testing, sample size estimation, methods of data collection, analysis and interpretation and critical scientific appraisal of scientific literature
	CO1: Concepts of occlusion and esthetics, etiology and classification of malocclusion: Students will gain a knowledge of structure and function of all anatomic components of occlusion; anatomy, neuromuscular physiology and pathology related to TMJ and diagnosis of occlusal dysfunction. A comprehensive review of the local and systemic factors in the causation of malocclusion and various classifications of malocclusion.
	CO2 Diagnosis & treatment planning in orthodontics. The students will gain an acumen regarding the process of data gathering, synthesis and translating it into a treatment plan for various orthodontic problems. Students will be gaining knowledge of various imaging techniques, radiation hygiene, applications of cephalometrics, use of software and applications of CBCT and other imaging modalities for diagnosis and treatment planning.



CO1 Basic principles of mechanotherapy; Preventive and interceptive orthodontics and Contemporary Orthodontic appliances: Students will gain knowledge regarding principles, design and manipulation, case selection and evaluation of all the appliances and application of basic fundamentals of biomechanics towards efficient treatment mechanotherapy.

CO2 Multidisciplinary orthodontics: Students will learn about the principles of interdisciplinary patient treatment, common problems and their management; biomechanics and principles of treating adult patients in order to facilitate the dental procedures necessary to control disease, restore function and/or enhance appearance of the patient.

CO1 Recent Advances & Professional ethics and responsibilities: Students will gain theoretical and practical knowledge regarding use of temporary anchorage devices, lasers, application of FEM. digital advancements, Distraction Osteogenesis, Lingual Orthodontics and Clear aligners and an understanding of ethical issues and an awareness of the ethical obligations inherent in the provision of health care and developing an attitude to adopt ethical principles in all aspects of Orthodontics.

CO2Infectioncontrol,PracticemanagementandErgonomics:Students will be encouraged to follow



		personal hygiene and	infection control
		and also learn about	ergonomics and
		dynamics of solo and	group practices.
		personal managem	ent materials
		personal managem	lie relations
		management, pub	relations,
		professional relation	onship, office
		sterilization procedur	es, community-
		based orthodontics.	
7	Course Description	The programme outlin	ad addresses
/	Course Description	The programme outin	ed, addresses
		both the knowledge ne	eded in
		Orthodontics and allied	d Medical
		specialities in its scope	e. A minimum of
		three years of formal tr	raining through a
		graded system of educ	ation as
		specifies, will equip th	e trainee with
		skill and knowledge at	its completion
		to be able to practice b	asic
		Orthodontics and have	the ability to
		intelligently groups for	
		interingentity pursue fui	
		apprenticeship towards	s advanced
		Orthodontics	
8	Outline syllabus		
	Unit 1	Applied basic sciences	
	A	Applied anatomy,	CO1
		genetics	~~·
	В	Pathology,	COI
		physiology, applied	
		pharmacology,	
		physical	
		anthropology, dental	
	C	Diostotistics applied	CO2
	C	research	02
		methodology	
	Unit 2	Growth and	
		development, child	
		psychology and	
		behavior management	
	A	Growth and	CO1
		development of prenatal	



	and postnatal	
	development of	
	craniofacial structures.	
B	Stages of child	CO1
	development. Theories	001
	of psychological	
	development	
	Management of child in	
	orthodontic treatment	
	Management of	
	handicapped child	
С	Motivation and	CO1 CO2
C	Psychological problems	001, 002
	related to malocclusion	
	/ orthodontic	
	Adolescent psychology	
	Rebayioral psychology	
	and communication	
II:4 2		
Unit 3	Etiology and	
	classification of	
	malocclusion,	
	orthodontic history,	
	Diagnostic procedures	
	and treatment	
	planning in	
	orthodontics.	
Α	History of orthodontics.	CO 305.2.1
В	A comprehensive	CO 305.2.1
	review of the local and	
	systemic factors in the	
	systemic ractors in the	
	causation of	
	malocclusion, various	
	classifications of	
	malocclusion.	
С	Emphasis on the	CO 305 2 2
	process of data	CO 305 3 1
	gathering, synthesis and	00 505.5.1
	translating it into a	
	treatment plan, problem	
	cases - analysis of cases	
	and its management.	
	cephalometrics,	
	instrumentation, image	
	processing, radiation	
	hygiene, advanced	
	cephalometrics	
	techniques, video	
	imaging principles and	
	application.	
Unit 4	Practice management	
	in Orthodontics	
		1



A	Economics and	CO2
	dynamics of solo and	
	group practices,	
	personal management,	
	materials management	
В	Public relations,	CO2
	Professional	
	relationship, Dental	
	ethics and	
	jurisprudence.	
С	Office sterilization	CO2
	procedures, community-	
	based orthodontics.	
Unit 5	Clinical	
	Orthodontics &	
	Recent Advances	
Α	Myofunctional	CO2
	orthodontics,	
D	Cleft lip and palate	CO2 CO1
D	rehabilitation, biology	CO2, CO1,
	of tooth movement,	02
	Orthognathic surgery,	
	interdisciplinary	
	orthodontics,	
	orthodoptics retention	
	& relapse, biology of	
	tooth movement.	
С	Recent advances like	CO2
	implants, Lasers, FEM	
	application, distraction	
Mode of exemination	Theory/Jury/Practice	
wode of examination	1/Viva	
Weightage Distribution	1 st MDS 100	
Weightage Distribution	3^{rd} MDS 600	
Text book/s*	TITLE	AUTHOR
1.	BIOMECHANICS AND	NANDA,
	ESTHETIC STRATEGIES	
	LSTILLIC STRAILOILS	KAVINDKA
	IN CLINICAL	KAVINDKA
	IN CLINICAL ORTHODONTICS	Deserves
2.	IN CLINICAL ORTHODONTICS A DENTAL TREASURE	BUCKING,
 2.	A DENTAL TREASURE CHEST	BUCKING, WOLFRAM
 2. 3.	A DENTAL TREASURE CHEST CLINICAL PROBLEM SOLVING IN	BUCKING, WOLFRAM MILLETT, D.
 2.	IN CLINICAL ORTHODONTICS A DENTAL TREASURE CHEST CLINICAL PROBLEM SOLVING IN ORTHODONTICS &	BUCKING, WOLFRAM MILLETT, D.



4.	CONTEMPORARY ORTHODONTICS	PROFFIT,W.R.
5.	GRABER'S TEXTBOOK OF ORTHODONTICS BASIC PRINCIPLES AND PRACTICE	PREMKUMAR, S.
6.	TEXT BOOK OF Orthodontics	Samir E. Bishara
7.	MCQS IN Orthodontics	Chandra,Satis h
8.	ORTHODONTICS 3 RD EDI.	BHALAJHI, S. I.
9.	ORTHODONTICS 4RTH Edi.	GRABER, TM
10.	AN ATLAS ON Cephalometric Landmarks 1 st Edi	BASAVARAJ SUBHASCHANDR A
11.	Removable Orthodontic Appliances	ISAACSON,K.G.
12.	Reviews In Orthodontics	Jena, Ashok Kumar
13.	Synopsis Of Orthodontic Treatment	Purva Kumar
14.	THE DESIGN CONSTRUCTION AND USE OF REMOVABLE ORTHODONTIC APPLIANCES	Adams, C.P.
15.	TIP-EDGE Orthodontics	TIP-EDGE Orthodontics
16.	W&H ORTHODONTIC Notes	JONES, MALCOLM L.
17.	CONTEMPORARY TREATMENT OF DENTOFACIAL DEFORMITY	PROFFIT,W.R.
18.	DENTOFACIAL ORTHOPEDICS WITH FUNCTIONAL APPLIANCES	GRABER, TM
19.	THE ALEXANDER DISCIPLINE	Alexander.G. Wick
20.	Removable Orthodontic Appliance	GRABER,T.M.
21.	RAPID MAXILLARY Expansion	Timms, Donald J
22.	TWIN BLOCK FUNCTIONAL THERAPY	WILLIAN J Clark



23.	DIAGNOSIS AND TREATMENT PLANNING IN CRANIOFACIAL GROWTH	LINDEN,F.P.G.M VANDER
24.	MANAGEMENT OF TM Disorders & Occlusion	Jejjrey P.Okeson
25.	BIOMECHANICS IN ORTHODONTICS PRINCIPLES & PRACTICE	RAM S. NANDA
26.	FIXED ORTHODONTIC Appliance	WILLIAM,J.K.
27.	ORTHODONTICS TREATMENT OF IMPACTED TEETH	ADRIAN BECKER
28.	ORTHODONTICS RX WITH REMOVABLE APPLIANCE	W.J.B HOUSTON
29.	ORTHODONTICS FOR DENTAL STUDENTS	DR.T.C.WHITE
30.	MODERN BEGG: A Combination Of Begg &Straight wire Application &Techniques	THOMPSON, WILLIAM.J
31.	Radiographic Cephalometry	JACOB ,ALEXANDER
32.	TEXTBOOK OF ORTHODONTICS	GOURI SHANKER
33.	CLINICAL ORTHODONTICS- CURRENT CONCEPT GOALS & MECHANICS	ASHOK KARAD
34.	ORTHODONTICS- PRINCIPLE &PRACTICE	Phulari
35.	ORTHODONTICS- SHORT NOTES & MCQ	SANJAY KR.
36.	ORTHODONTICS- PRINCIPLE &PRACTICE (FREE BOOKLET OF MCQ)	Phulari
37.	ORTHODONTICS CEPHALOMETRY	A.E. Athanasiou
38.	LINGUAL ORTHODONTICS	SCUZZO & TAKE MOTO
39.	REFINED BEGG FOR MODERN TIMES	VIJAY P. JAYADE
40.	ORTHODONTICS MATERIALS	ORTHODONTICS MATERIALS



41.	MASTERING BDS IIND	MASTERING BDS
	YEAR	IIND YEAR
42.	Removable	Graber,
	Orthodontics	NEUMANN
	APPLIANCES	
Other References		

Mapping

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3	PSO4	PSO5
CO 305.1.1	3	2	2	-	2	2	3	2	1	1	1
CO 305.1.2	3	2	3	-	2	1	3	2	1	2	1
CO 305.2.1	2	3	2	3	2	-	1	3	1	2	3
CO 305.2.2	2	3	2	3	1	-	2	2	2	1	3
CO 305.3.1	3	-	3	-	1	-	2	1	3	3	-
CO 305.3.2	3	-	3	-	3	-	2	2	3	2	-
CO 305.4.1	2	2	-	3	2	-	1	2	-	-	3
CO 305.4.2	2	1	1	-	3	1	-	2	2	2	1

1-Slight (Low)

2-Moderate (Medium)

3-Substantial (High)

TEACHING / LEARNING ACTIVITIES:



The post graduate is expected to complete the following at the end of :

S.No.	Year Wise	ACTIVITIES WORKS TO BE DONE			
1.	Module 1	Orientation to the PG programme			
	(First Year)	Pre-clinical work (3 months)			
		A general outline of the type of exercises is given here:			
		1. General Wire bending exercises to develop the manual			
		dexterity.			
		2. Clasps, Bows and springs used in the removable appliances.			
		3. Soldering and welding exercises.			
		4. Fabrication of removable, habit breaking, mechanical and			
		functional appliances, also all types of space			
		maintainers and space regainers.			
2.	Module 2	1. Bonwill Hawley Ideal arch preparation.			
	(First Year)	2. Construction of orthodontic models trimmed and polished.			
		3. Cephalometric tracing and various Analyses, also			
		superimposition methods			
		4. Selection of topic for Library dissertation and submission of			
		Dissertation Synopsis.			
3	Module 3	1 Fixed appliance typodont exercises			
5.	(First Vear)	a) Training shall be imparted in one basic technique i e			
	(Thist I car)	Standard Edgewise / Begg technique or its derivative /			
		Straight wire etc. with adequate exposure to other			
		techniques			
		b) Typodont exercise			
		a Band making			
		h Bracket positioning and placement			
		5. Dracket positioning and placement			



		c. Different stages in treatment appropriate to					
		technique taught					
		2. Clinical photography					
		3. Computerized imaging					
		4. Preparation of surgical splints, and splints for TMJ					
		problems.					
		5. Handling of equipment like vacuum forming appliances and					
		hydro solder etc.					
1	Modulo 4	Each postgraduate student should start with a minimum of 50					
	(Second Vear)	fixed orthodontics cases and 20 removable including					
	(Second Tear)	myofunctional cases of his/her own Additionally he/she should					
		handle a minimum of 25 transferred cases					
		Cases should include:					
		1 Removable active appliances					
		2 Removable functional appliance cases like activator					
		Bionator functional regulator twin block and new					
		developments					
5.	Module 5	1. Fixed functional appliances – Herbst appliance, jasper					
	(Second Year)	jumper etc					
		2. Dento-facial orthopedic appliances like head gears,					
		rapid maxillary expansion, NiTi expander etc.					
6.	Module 6	1. Class-I malocclusion with Crowding					
	(Second Year)	2. Class-I malocclusion with bi-maxillary protrusion					
		3. Class-II division – 1					
		4. Class-II division – 2					
		5. Class-III (Orthopedic, Surgical, Orthodontic cases)					
7.	Module 7	1. Inter disciplinary cases					
	(Third Year)						



		2. Appliance for arch development such as molar
		distalization
		3. Fixed mechano therapy cases (Begg, PEA, Tip edge,
		Edgewise, lingual)
8.	Module 8	1. Retention procedures of above treated cases.
	(Third Year)	2. Publication of an article in a scientific journal.
		3. Preparation for final exams.
9.	Module 9	1. Preparation for final exams.
	(Third Year)	2. University exam

ASSESSMENT EXAMINATION:

In addition to regular evaluation, log book etc., Assessment examination should be conducted after every 3 modules & progress of the student monitored.

MONITORING LEARNING PROGRESS:

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only helps teachers to evaluate students, but also students to evaluate themselves. The monitoring is to be done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects.