



Programme Specifications

MDS Programme

Programme:
Orthodontics and Dentofacial
Orthopaedics

Department:
Orthodontics and Dentofacial
Orthopaedics

Faculty of Pharmacy
M.S. Ramaiah University of Applied Sciences

Programme Specifications: Orthodontics and Dento-Facial Orthopedics

Faculty	Dental Sciences
Department	Orthodontics and Dento-Facial Orthopedics
Programme	Master of Dental Surgery
Dean of Faculty	Dr B V Sreenivasa Murthy
Head of Department	Dr Silju Mathew

- 1 **Title of The Award**
MDS in Orthodontics and Dento-Facial Orthopedics
- 2 **Modes of Study**
Full Time
- 3 **Awarding Institution /Body**
M.S. Ramaiah University of Applied Sciences
- 4 **Joint Award**
Not Applicable
- 5 **Teaching Institution**
Faculty of Dental Sciences, M.S. Ramaiah University of Applied Sciences
- 6 **Programme Approved date by the Academic Council of the University**
February 2015
- 7 **Next Review Date:**
January 2018
- 8 **Programme Approving Regulating Body and Date of Approval**
Dental Council of India(DCI)
- 9 **Programme Accredited Body and Date of Accreditation**

- 10 **Grade Awarded by the Accreditation Body**

- 11 **Programme Accreditation Validity Duration**

- 12 **Programme Benchmark**
DCI - New Delhi: Orthodontics and Dento-Facial Orthopedics Course

13 Date of Programme Specifications

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14 Rationale for the Programme

Social and psychological aspect of physical attractiveness hampered by malocclusion and jaw discrepancies is known fact and psychological wellbeing is an intangible benefit to the society as a whole. The role of orthodontic treatment is analogous to that of several other medical specialties such as plastic surgery and orthopedics, in which patients problem often does not result from disease but from distortion of development. Therefore orthodontic treatment for these people is essential, and it is shown that such treatment improves the quality of life. Also oral diseases especially dental caries, periodontal diseases arising from irregular teeth, speech defects and risk of trauma because of some type of malocclusion, temporomandibular joint problems arising from deep bite and occlusal prematurities and combined multidisciplinary approach for congenital defects like cleft lip and palate often necessitates orthodontic treatment. Intervention of adverse oral habits and as an adjunct for prosthetic rehabilitation, are the added scope of orthodontics. In the Indian scenario, as malocclusion is being a predominant factor, but at the same time due to lack of patients education, it is the most neglected aspect. Hence the orthodontist should aim at identifying the problem, educating the patient and plan a necessary treatment in order to achieve structural balance, functional stability and esthetic harmony.

Orthodontics includes study of growth and development of jaws and face particularly and body generally as influencing the position of teeth; study of action and reaction of internal and external influences on the development; prevention and correction of arrested and perverted development. It is that area of Dentistry concerned with supervision, guidance and correction of growing and mature dento-facial structures including those conditions require movement of teeth or correction of malrelation and malformation of related structures.

Considering that the patients with dentofacial deformities constitute a major portion of population and with the demand for treatment for both children and adults, presently we have a shortage of orthodontists in the country, it is imperative to train more orthodontists to address the orthodontic health care needs of the community.

15 Programme Mission

Masters degree programme in Orthodontics and Dento-facial Orthopedics is designed to impart training in clinical diagnosis and management of common orthodontic problems such as dental malocclusion, skeletal jaw discrepancies, malformation & malfunctioning of oro-facial structures. Postgraduates are expected to possess advanced theoretical and applied topics in applied basic sciences and in all facets of Orthodontics and Dento-facial Orthopedics; high order skills in analysis, critical evaluation, professional clinical application; and the ability to solve complex problems and think rigorously and independently. The postgraduates are expected to exhibit high skill levels in all treatment modalities in exercise empathy and a caring attitude and maintain high ethical standards. Objective is to train the candidates so as to ensure higher competence in both general and special area of interest and prepare them for career in teaching, research and

speciality practice. Professional honesty and integrity are also to be fostered.

16. Programme Goal

The Programme goal is to produce graduates with critical, analytical and problem solving skills and ability to think independently in pursue in Orthodontics and Dento-Facial Orthopedics

17. Programme Objectives

The programme aims to prepare the dental surgeons for a career in Orthodontics and Dento-facial Orthopedics with an emphasis on prevention as well as correction. The programme will impart the knowledge of the growth and development of orofacial structures & function of stomatognathic system in conjunction with the entire body. The programme also emphasizes for critical diagnostic analysis and evaluation of various treatment options and adopts the most rational approach. Candidates must achieve a high degree of clinical proficiency in the subject matter and develop competence in research and its methodology as related to the orthodontic field. The programme also strengthens the clinical decision making ability of the student. It also trains students on communication skills and to respect patient's rights and privileges including patient's right to information. Programme also stresses candidates to be humble and accept the limitations in his/her knowledge and skill and seek help from colleagues when needed.

The specific programme aims are:

1. To impart knowledge on supervision, guidance and correction of growing and mature dento-facial structures
2. Diagnose the common orthodontic problems such as dental malocclusion, skeletal jaw discrepancies, malformation & malfunctioning of oro-facial structures, understand the etiology and pathophysiology and describe the clinical signs and symptoms
3. To critically analyze the various treatment options and deliver it with most efficient manner based on evidence based dentistry
4. Be competent to fabricate/design and manage the most appropriate intra or extra oral, removable or fixed orthodontic, myo-functional and orthopedic appliance for a given orthodontic problem
5. To manage potential problems of mechanotherapy, post treatment relapse and effectively initiate corrective procedures
6. To provide a general perspective and opportunities for a career in Orthodontics and Dento-facial Orthopedics

18. Programme Intended Learning Outcomes

The intended learning outcomes are listed under four headings

1. Knowledge & Understanding
2. Cognitive Skills
3. Clinical Skills
4. Transferable/Capability skills

Knowledge & understanding

After undergoing this programme, a student will be able to:

KU1: Describe the growth and development of craniofacial structures

KU2: Describe the clinical features , investigations of various types of malocclusion and dentofacial deformities

KU3: Explain the various concepts and techniques of orthodontic management of

malocclusion and dentofacial deformities

KU4: Demonstrate the use of various orthodontic appliances for various treatment protocols

Cognitive skills

After undergoing this programme, a student will be able to:

- CS1: Diagnose the common orthodontic problems such as dental malocclusion, skeletal jaw discrepancies, malformation & malfunctioning of oro-facial structures,
- CS2: Compare and contrast the differentiating features of clinical conditions
- CS3: Appraise the interaction of social, cultural, genetic and environmental factors and their relevance to management of oro-facial deformities
- CS4: Discuss the interaction between the biological processes and mechanical forces acting on stomatognathic system during orthodontic treatment

Clinical Skills

After undergoing this programme, a student will be able to

- PS1: Construct, fabricate, design and manage the most appropriate intra or extra oral, removable or fixed, orthodontic or myo-functional appliance for a given orthodontic problem
- PS2: Demonstrate behavior management in children and adolescence including those with special health care needs
- PS3: Recommend to patients, treatment options available to manage a given orthodontic problem including communication with professional colleagues
- PS4: Perform various treatment procedures of varying complexities with multidisciplinary approach for a holistic management of the patient

Transferable Skills

After undergoing the programme, a student will be able to

- TS1: Manage information, develop technical reports and make presentations
- TS2: Build, Manage and Lead a team to successfully complete a project and communicate across teams and organizations to achieve professional objectives
- TS3: Work under various constraints to meet project targets
- TS4: Adopt to the chosen profession by continuously upgrading his/her knowledge and understanding through Life-long Learning philosophy

18 Programme Structure

Entire postgraduate program is a 3-year program comprising of 6 terms of 26 weeks each. Every term can be a combination of modules including Programme Specialization Module, Research Module, Faculty Common Module and an Elective Module. Each Programme specialization module will be followed by one week of assessment and assignment. Every student can avail 2 weeks of vacation once a year during the assignment subject to approval of the head of the department. Every module will also have one- week duration allotted for National Conference and Post Graduate Convention. The following are the modules a student is required to successfully complete for the award of the degree

	Module type	Module code	Module Title	Credits
Term 1				
1	Programme specialization modules	PGORTH01	Preclinical phase	24
2	Faculty-Common Modules	PGFCM01	Clinical photography	1
3	Faculty-Common Modules	PGFCM02	Basic and advanced life support	1
4	Faculty-Common Modules	PGFCM03	Personality Development and Soft Skills	1
5	Faculty-Common Modules	PGFCM04	Ethics and Professionalism	1
6	Research modules	PGRM01	Research Methodology	2
Term 2				
1	Programme specialization modules	PGORTH02	Clinical Phase Basics – 1	24
2	Research modules	PGRM03	Library Dissertation	4
Term 3				
1	Programme specialization modules	PGORTH03	Clinical Phase Basics – 2	24
2	Elective module	PGEM01	Training in MSRUAS	1
3	Research modules	PGRM02	Short term project/Group project	6
4	Research modules	PGRM05	Conference presentation	1
Term 4				
1	Programme specialization modules	PGORTH04	Clinical Phase Advanced - 1	24
2	Elective module	PGEM02	Training in any other institution in India or Abroad	3
3	Research modules	PGRM04	Dissertation	8
Term 5				
1	Programme specialization modules	PGORTH05	Clinical Phase Advanced - 2	24
2	Research modules	PGRM04	Dissertation	10
3	Research modules	PGRM06	Journal publication	1
Term 6				
1	Programme specialization modules	PGORTH06	Clinical Phase Advanced - 3	20
TOTAL				180

19 **Programme Delivery Structure**

The following table explains the programme time table

Week	Teaching Learning Activity	Research Activity	Supporting Activity
Term 1			
1-22	PGORTH01-Preclinical phase		National Conference
23	Assessment & Assignments		
24-25			PGFCM01 - Clinical photography
			PGFCM02 -Basic and advanced life support
			PGFCM03 -Personality Development and Soft Skills
			PGFCM04 – Ethics and professionalism
26		PGRM01 - Research Methodology	
Term 2			
1-22	PGORTH02 - Clinical Phase Basics – 1	Start of Library dissertation Submission of synopsis for Short term project /Group project	Postgraduate Convention
24	Assessment & Assignments		
25-26		PGRM03 – Submission of Library Dissertation PGRM04 - Submission of synopsis for Dissertation	
Term 3			
1-22	PGORTH03 - Clinical Phase Basics – 2	PGRM05 - Conference presentation	National Conference
23	Assessment & Assignments		
24		PGEM01 - Training in MSRUAS	
25-26		PGRM02 - Submission of Short term project /Group project	
Term 4			
1-22	PGORTH04 - Clinical Phase Advanced – 1		Postgraduate Convention
23		PGRM04 - Review of Dissertation	
24	Assessment & Assignments		
25- 26		PGEM02 - Training in any other institution in India or Abroad	
Term 5			
1-22	PGORTH05 - Clinical Phase Advanced – 2	PGRM06- Journal Publication	National Conference
23	Assessment & Assignments		
24-26		PGRM04 - Submission of Dissertation	
Term 6			
1-18	PGORTH06 - Clinical Phase Advanced – 3		
19 -24	Study Leave		
25-26	Assessment		

20. Module Delivery Structure

The module is delivered Monday to Saturday of the week according to time table including mandated library/laboratory time towards self-directed learning.

21 Teaching Learning Methods

Teaching and Learning Methods

1. Interactive Teaching Learning methods
2. Team Teaching/ Integrated Teaching
3. Case Based Discussions
4. Face to Face Lectures using Audio-Visuals
5. Seminars/journal clubs/e-lectures
6. Group Discussions, Debates, Presentations
7. Interdepartmental meets
8. Continuing dental education programs/symposiums/workshops
9. Clinical / Practicals
10. Mini Clinical Exercise, Direct Observation of Procedural skills
11. Laboratory-work Demonstrations
12. Case Discussions
13. School visits/Outreach center visits
14. Project work
15. State/National/International conferences and conventions

22 Research modules

Research modules are

1. Research Methodology

Every student shall be trained in a Research Methodology in a workshop prior to starting any research project.

2. Library dissertation

Each student is expected to submit a report on literature review to arrive at a research question for the dissertation.

3. Short term or Group Project

Each student is expected to carry out either a short term project in their own specialty or conduct an interdisciplinary research project as a group project. The students can choose a project from the priority areas of research of the concerned department or the Faculty and submit the synopsis of the intended project for review. A group will not have more than 5 students. The purpose of group project is that the group should be able to design a multidisciplinary research project. The students are required to develop a report for assessment and also finalise the report in form of a manuscript and submit to the constituted committee. A committee constituted by the Academic Registrar of the Faculty shall review the synopsis of the intended research project and progress of the research project till completion. The detail procedure and evaluation procedure will be provided in student handbook.

4. Dissertation

A student should choose a project from the priority areas of research for the department and submit the finding in the form of a dissertation. The detail procedure of executing and assessing individual project is specified in student handbook.

5. Conference presentation

Each student is expected to present the findings of the short-term project/group project or dissertation at the National conference of the specialty or at related disciplines. During the course of MDS in three years, a student is mandatorily required to present a minimum of one poster/ table clinic and one paper.

6. Journal Publication

Each student shall have submitted at least one publication at the time of appearing at CEE. The publication can be a review, original research or case report in a peer reviewed, indexed journal.

23 Elective Module

Elective modules are

1. Training in any other university

A student can undergo training in any other university or any other organisation in a specific subject area that falls under the broad category of his specialization either in India or Abroad for two weeks. He/she need to submit a complete report on the training undergone and also make a presentation to a team of examiners.

2. Training in MSRUAS

A student can undergo training in any other Faculty of the University for one week to hone skills necessary for career. He/she need to submit a complete report on the training undergone and also make a presentation to a team of examiners.

24 Faculty common modules

Each student is expected to undergo training in the following modules as an value added skill for his/her post-graduation

- a. Basic And Advanced Life Support
- b. Personality Development And Soft Skills
- c. Clinical Photography
- d. Ethics and Professionalism

Module specifications will contains details of aim and summary, intended learning outcomes, contents, delivery and assessment.

25 Assessment and Grading**Programme specialization Teaching Module (PSTM) 1 - 6**

There are two components-

Component 1 (Continuous Evaluation of Module CEM) for PSTM 1-5

Component 2 (Course End Exam CEE) for PSTM 6,

1. Component 1 (Continuous Evaluation of Module CEM): 600 marks for module 1 to 5

- ii. Every module will be assessed for 120 marks; assessment in theory for 40 marks, in practicals

/clinical for 40 marks and an assignment for 40 marks

- a. Component 1A will be as assessment in theory for 20 marks conducted at the end of module while 20 marks will be assigned for seminars, journal clubs, or any other such academic activity conducted during the module.
- b. Component 1B will be assessments in regular chair side discussions of practicals/clinical for 20 marks and viva voce marks for 20 marks.
- c. Component 1C will be an Assignment that will be submitted as a report followed by presentation for 40 marks.

2. Component 2 (Course End Exam CEE): 600 marks

At the end of the 6th module, a Course end exam will be held as per the norms of the University/DCI for Assessment.

a. Assessment for theory will for 300 marks consisting of 4 papers as specified by DCI.

- i. Paper 1: Applied Anatomy, Physiology, Pathology, Microbiology, Nutrition and Dietetics
- ii. Paper 2: Diagnosis in orthodontics, child and adult psychology
- iii. Paper 3: Clinical orthodontics
- iv. Paper 4: Advanced clinical orthodontics

b. A structured viva voce exam for 80 marks and a pedagogy for 20 marks will be conducted during practical exam.

c. Structured clinical exam for different exercises will be assessed for 200 marks.

- i. Case discussion and management of growth modulation modality – 50 mark
- ii. Comprehensive Case discussion of 5 finished orthodontic cases – 75 marks
- iii. Comprehensive case discussion and treatment planning for orthodontic management – 25 marks
- iv. Bonding/wire bending/facebow bending exercise – 50 marks

Research, Faculty common, elective modules : 600 Marks

These elective modules will be assessed as per the assessment norms as specified in the module specification. The assessment for these modules is through tests, presentations or any other method as specified in the module specification

26 Eligibility, Failure and Readmissions

In case of programme specialization teaching modules 1-5, the student is eligible for the next programme specialization module on satisfaction of attendance requirement and obtaining 40% in Component 1. If a student fails in component 1, he/she is required to take up the resit examination in theory and viva for the module when offered prior to the next programme specialization teaching module by paying the requisite fees. In case, the student is unable to submit assignment and attend assessment at the end of the programme specialization module, with due considerations (on a case to case basis) to the underlying circumstances, the student may be permitted to appear for the Resit examination in assignment, theory and viva voce with the permission of the Dean of the Faculty and Academic Registrar of the University. Assessment and pass criteria for Research, Faculty common, Elective modules is set in the module specifications and followed accordingly

27 Attendance

A student is required to have a minimum of 85% attendance to be eligible to write the examination. Less than 85% attendance is considered to be INELGIBLE such a student is required to follow the same procedure as that of a failed student.

28 Award of Class

As per the programme regulations

29 Student support for Learning

1. Module Notes
2. Reference Books in the Library
3. Magazines and Journals
4. Internet Facility
5. Computing Facility
6. Laboratory Facility
7. Workshop facility
8. Staff support
9. Lounges for Discussions
10. Any other support that enhances their learning

30 Quality Control Measures

1. Review of Subject Notes
2. Review of Question Papers and Assignment Questions
3. Student Feedback
4. Moderation of assessed work
5. Opportunities for students to see their assessed work
6. Review by external examiners and external examiners reports
7. Staff Student consultative committee meetings
8. Student exit feedback
9. Subject Assessment Board(SAB)
10. Programme Assessment Board(PAB)

31 Curriculum Map

Module Code	Knowledge & Understanding				Cognitive Skills				Clinical Skills			
	KU1	KU2	KU3	KU4	CS1	CS2	CS3	CS4	PS1	PS2	PS3	PS4
PGORTH01	X	-	-	-	-	-	-	X	X	-	-	-
PGORTH02	X	X	X	X	X	X	X	X	X	X	X	X
PGORTH03	X	X	X	X	X	X	X	X	X	X	X	X
PGORTH04	X	X	X	X	X	X	X	X	X	X	X	X
PGORTH05	X	X	X	X	X	X	X	X	X	X	X	X
PGORTH06	X	X	X	X	X	X	X	X	X	X	X	X
PGRM01	-	-	-	X	-	-	-	X	-	-	-	-
PGRM02	X	X	X	X	X	X	X	X	X	X	X	X
PGRM03	X	X	X	X	X	X	X	X	X	X	X	X
PGRM04	X	X	X	X	X	X	X	X	X	X	X	X
PGRM05	X	X	X	X	X	X	X	X	X	X	X	X
PGRM06	X	X	X	X	X	X	X	X	X	X	X	X
PGFCM01	X				X	X	X	X	X	X	X	X
PGFCM02					X	X	X	X	X	X	X	X
PGFCM03					X	X	X	X	X	X	X	X
PGFCM04					X	X	X	X	X	X	X	X
PGEM01				X	X	X	X	X	X	X	X	X
PGEM02					X	X	X	X	X	X	X	X

32 Capability Map

Module Code	Group work	Self-learning	Research Skills	Written Communication Skills	Verbal Communication Skills	Presentation Skills	Behavioral Skills	Information Management	Personal management/ Leadership Skills
PGORTH01	X	X	X	X	X	X	X	X	
PGORTH02	X	X	X	X	X	X	X	X	X
PGORTH03	X	X	X	X	X	X	X	X	X
PGORTH04	X	X	X	X	X	X	X	X	X
PGORTH05	X	X	X	X	X	X	X	X	X
PGORTH06	X	X	X	X	X	X	X	X	X
PGRM01	X	X	X	X	X	X	X	X	X
PGRM02	X	X	X	X	X	X	X	X	X
PGRM03	X	X	X	X	X	X	X	X	X
PGRM04	X	X	X	X	X	X	X	X	X
PGRM05	X	X	X	X	X	X	X	X	X
PGRM06	X	X	X	X	X	X	X	X	X
PGFCM01	X	X	X	X	X	X	X	X	X
PGFCM02	X	X	X	X	X	X	X	X	X
PGFCM03	X	X	X	X	X	X	X	X	X
PGFCM04	X	X	X	X	X	X	X	X	X
PGEM01	X	X	X	X	X	X	X	X	X
PGEM02	X	X	X	X	X	X	X	X	X

33 **Co-curricular Activities**

Students are encouraged to take part in co-curricular activities like seminars, conferences, symposium, paper writing, attending industry exhibitions, project competitions and related activities to enhance their knowledge and network.

34 **Cultural and Literary Activities**

To remind and ignite the creative endeavors, annual cultural festivals are held and the students are made to plan and organise the activities

35 **Sports and Athletics**

Students are encouraged to engage in routine physical activities and also take part in annual sports and athletic events.

