



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

May 2018

7 Next Review Date:

April 2021

8 Programme Approving Regulating Body and Date of Approval

Dental Council of India (DCI) MDS Regulations dated September 5, 2017 vide No. DE-87-2017

9 Programme Accredited Body and Date of Accreditation

10 Grade Awarded by the Accreditation Body

11 Programme Accreditation Validity Duration

12 Programme Benchmark

Dental Council of India (DCI) MDS Regulations dated September 5, 2017 vide No. DE-87-2017

13 Rationale for the Programme

Social and psychological aspect of physical attractiveness hampered by malocclusion and jaw discrepancies is known fact and psychological well-being 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.

14 Educational Aims of the Programme

Master's 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 specialty practice. Professional honesty and integrity are also to be fostered.

15 Programme Aims and 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

16 Intended Learning Outcomes of the Programme

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: Able to take responsibilities to overcome difficult situations and diagnose, plan treatment and execute treatment for patients seeking orthodontic treatment
- TS2: Develop a research project and make presentations
- TS3: Work in a team to treat children/adult who needs multidisciplinary approach like cleft and orthognathic surgery
- TS4: Work in a hospital based setup in liaison with medical setup

17 **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 include one week of assessment. The following are the modules a student is required to successfully complete for the award of the degree

	Module Title	Module code	Credits
Programme specialization modules			
1	Preclinical phase	PGOPM01	24
2	Clinical Phase Basics – 1	PGOPM02	24
3	Clinical Phase Basics – 2	PGOPM03	24
4	Clinical Phase Advanced - 1	PGOPM04	24
5	Clinical Phase Advanced - 2	PGOPM05	24
6	Clinical Phase Advanced - 3	PGOPM06	20
Research modules			
1	Research Methodology	PGRM01	2
2	Short term project/Group project	PGRM02	6
3	Library Dissertation	PGRM03	4
4	Dissertation	PGRM04	18
5	Conference presentation	PGRM05	1
6	Journal publication	PGRM06	1
Faculty Common Modules			
1	Clinical photography	PGFCM01	1
2	Basic and advanced life support	PGFCM02	1
3	Personality Development and Soft Skills	PGFCM03	1
4	Law for Dental Professionals	PGFCM04	1
Elective module			
1	Training in any other institution in India or Abroad	PGEM01	3
2	Teacher training Module	PGTTM	1
	TOTAL		180

18. 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.

19 Teaching Learning Methods

Teaching and Learning Methods

1. Team Teaching/ Integrated Teaching
2. Face to Face Lectures using Audio-Visuals
3. Seminars/journal clubs/e-lectures
4. Case Based Discussions
5. Group Discussions, Debates, Presentations
6. Demonstrations on videos, computers and models
7. Clinical based learning
8. Hospital based learning
9. Laboratory work
10. Dissertation/ Group Project work
11. School visits/Outreach center visits
12. Interdepartmental meets
13. Continuing dental education programs/symposiums/workshops
14. State/National/International conferences and conventions

20 Research modules

Research modules are

1. Research Methodology

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

2. Library dissertation

Each student is expected to survey, review and critically appraise scientific literature. The students will be able to use various search engines to identify and select literature with good scientific value. This module emphasizes the student to apply good practices and guidelines of a systematic and structured literature review to collect, comprehend, sort and document the available information in open literature. In the context of reviewed contemporary research work, student acquires wider breadth of knowledge and will be able to formulate research question to be addressed in the main dissertation. The module insists on the preparation and submission of manuscript for publication..

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.

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.

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 Programme of MDS in three years, a student is mandatorily required to present a minimum of two poster/ table clinic and two paper.

6. Journal Publication

Each student shall have submitted the manuscript of the dissertation by the end of the MDS programme before component 2.

21 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 course 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 as per the guidelines laid by the University.

2. Teacher Training Module

A student can undergo training in principles of pedagogy and Health profession education to prepare for a career in academics. He/she need to submit a complete report on the training undergone and also make a presentation to a team of examiners as per the guidelines laid by the University.

22 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. Law for Dental Professionals

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

23 Assessment and Grading

There are two components-

Component 1 (Continuous Evaluation of Module CEM) for PSTM 1-6

Component 2 (Programme End Exam CEE),

a. Component 1 (Continuous Evaluation of Module - CEM) for PSTM 1-5 except 2: 200 marks

There are 2 components in this module

- i. Theory component consisting of
 - a. Assignment to be submitted as a word processed document for 50 marks
 - b. Assessment as a written examination for 50 marks
- ii. Clinical component consisting of
 - a. Clinical case discussion/clinical examination for 80 marks
 - b. Viva Voce for 20 marks on the module content including assignment.

b. Component 1 (Continuous Evaluation of Module - CEM) for PSTM 2: 200 marks

There are 2 components in this module

- i. Theory component consisting of
 - a. Assignment to be submitted as a word processed document for 100 marks
- ii. Clinical component consisting of
 - a. Clinical case discussion/clinical examination for 80 marks
 - b. Viva Voce for 20 marks on the module content including assignment.

c. Component 1(Continuous Evaluation of Module – CEM) for PSTM 6: 600 marks

- i. Theory component consisting of 3 Papers same as Part II of component 2
- ii. Structured clinical exam for different exercises will be assessed for 200 marks same as component 2.
- iii. Structured Viva Voce exam for 80 marks and pedagogy for 20 marks will be conducted during clinical exam
 - a. .

2. Component 2 (Programme End Exam): 700 marks

Component 2 shall have a theory component, Clinical Component, Pedagogy and Viva Voce.

Theory component

Written examination shall consist of Basic Sciences (Part-I) of three hours duration shall be conducted at the end of First year of MDS course. Part-II Examination shall be conducted at the end of Third year of MDS course. Part-II Examination shall consist of Paper-I, Paper-II and Paper-III, each of three hours duration. Paper-I & Paper-II shall consist of two long answer questions carrying 25 marks each and five questions carrying 10 marks each. Paper-III will be on Essays. In Paper-III three Questions will be given and student has to answer any two questions. Each question carries 50 marks. Questions on recent advances may be asked in any or all the papers. Distribution of topics for each paper will be as follows:

Part-I

Paper-I : Applied Basic Sciences: Applied anatomy, Physiology, Dental Materials, Genetics, Pathology, Physical Anthropology, Applied Research methodology, Bio-Statistics and Applied Pharmacology

Paper-I : Orthodontic history, Concepts of occlusion and esthetics, Child and Adult Psychology, Etiology and classification of malocclusion, Dentofacial Anomalies, Diagnostic procedures and treatment planning in Orthodontics, Practice management in Orthodontic Paper II : Clinical Orthodontics

Paper III : Descriptive and analyzing type question Clinical Component

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/face bow bending exercise – 50 marks

Pedagogy and Viva voce Component

Structured Viva Voce exam for 80 marks and pedagogy for 20 marks will be conducted during clinical exam.

Research, Faculty common, elective modules :

These 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.

24 **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 50% in Component 1.
- If a student fails in component 1, he/she is required to take up the re-sit examination in component 1 in the next opportunity with the permission of the HoD, Academic Registrar of the faculty and the Dean by paying the requisite fees.

Assessment and pass criteria for Research, Faculty common, Elective modules is set in the module specifications and followed accordingly.

25 **Attendance**

In case of Programme Specialization Teaching Module, a student is required to have a minimum attendance of 85% to be eligible to write the examination. However the Dean in consultation with HOD can condone up to 10% under special circumstances. Students who fail to achieve the minimum attendance is required to Re-Register, attend the module and take up all the components of assessment at the next offering. In case of Research modules, Faculty common modules and electives, the attendance requirement is specified in the respective module specification document.

26 **Award of Class**

As per the Academic Regulations of MDS programme

27 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. Staff support
8. Any other support that enhances their learning

28 Quality Control Measures

1. Review of Module 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. Staff Student Consultative Committee Meetings
7. Student exit feedback
8. Subject Assessment Board(SAB)
9. Programme Assessment Board(PAB)

29 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

30 Capability Map

Module Code	Group work	Self-learning	Research Skills	Written Communication	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

31 **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.

32 **Cultural and Literary Activities**

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

33 **Sports and Athletics**

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

