RAMAIAH UNIVERSITY OF APPLIED SCIENCES

Programme Specifications

MDS Programme

Programme:	Department:
Oral Pathology and Microbiology	Oral Pathology and Microbiology

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

University House, New BEL Road, MSR Nagar, Bangalore – 560 054

www.msruas.ac.in

Programme Specifications: Oral Pathology & Microbiology

Faculty	Dental Sciences
Department	Oral Pathology & Microbiology
Programme	Master of Dental Surgery
Dean of Faculty	Dr B V Sreenivasa Murthy
Head of Department	Dr Roopa S Rao

1 **Title of The Award**

MDS in Oral Pathology & Microbiology

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**

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10 **Grade Awarded by the Accreditation Body**

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11 **Programme Accreditation Validity Duration**

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12 **Programme Benchmark**

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

13 **Rationale for the Programme**

Oral diseases such as dental caries, periodontal diseases, tooth loss, oral mucosal lesions & oropharyngeal cancers, human immunodeficiency virus-related oral diseases and orodental trauma are major public health problems worldwide. Poor oral health has a profound effect on general health and quality of life. The burden of oral diseases is particularly high for the disadvantaged and poor population groups in both developing and developed countries.In the Indian scenario, often oral health is the most neglected aspect of health care with higher prevalence occurring in rural areas due to multiple barriers including lack of awareness, access to dental care or unaffordability.

The practice of oral pathology includes research, diagnosis of diseases using clinical, radiographic, microscopic, biochemical or other examinations. It occupies a unique position in the health care community for the dental as well as medical professions. A thorough knowledge obtained from this subject will help to correlate human biology with signs and symptoms of human disease. This will help to understand oral diseases so that it can be properly diagnosed and adequately treated.

Oral pathology speciality assists the clinicians to diagnose the challenging diseases like head and neck cancers by providing confirmatory evidence. This can be combined with advanced investigative techniques. It also navigates the surgeons for better management of patients. Thus it is imperative to train more oral pathologists to address the oral health care issues.

14 **Educational Aims of the Programme**

Master's degree programme in Oral Pathology is structured to ensure adequate coverage at an advanced level of all areas in Oral Pathology. However, the post graduates are expected to possess high end theoretical and topics in applied basic sciences and in all facets of oral pathology; high order skills in analysis, critical evaluation and diagnosis, professional practical application; and the ability to diagnose complex oral health diseases independently. The post graduates are expected to meet the human resource requirement in the arena of oral pathology and opt one of these: exclusive clinical practice, research or academics.

15 **Programme Aims and Objectives**

The Programme aims to train a dental surgeon for a career in Oral Pathology & Microbiology. The Programme trains a candidate so as to ensure higher competence in both general and special area of interest and prepare him for a career in teaching, research and speciality practice. A candidate must achieve a high degree of clinical proficiency in the subject matter and develop competence in research and its methodology as related to the field concerned.

The specific Programme aims are:

1. Ensure higher understanding in both general and special pathology dealing with the nature of oral diseases, their causes, processes and effects.
2. Enable the students to operate the diagnostic and investigative devices and interpret the observations.
3. Enable the students in the performance of routine histopathological evaluation of specimens relating to oral and perioral tissues, to carry out routine diagnostic procedures including hematological, cytological, microbiological, Immunological and ultra-structural investigations.

4. Ensure in depth understanding in Oral oncology, nature of oral oncological diseases, their causes, processes and effects.
5. Develop research skills to identify a scientific problem and address independently and as a team.
6. Function as a competent Oral Pathologist and Forensic Odontologist in any given situation.

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 and understanding

After undergoing the Programme, a student will be able to:

KU1: Describe the normal histology, anatomy, embryology and physiology of oral and maxillofacial structures

KU2:Discuss the clinical features, etiopathogenesis, radiographic features, oral manifestations, lab investigations and differential diagnosis of head and neck pathologies

KU3: Identify laboratory investigative procedures applicable in head and neck pathologies

KU4: Differentiate features of various head and neck pathologies

Cognitive Skills

After undergoing the Programme, a student will be able to:

CS1: Diagnose provisionally different pathological conditions that involve the oral cavity

CS2: Decide appropriate investigative procedures to arrive at a definitive diagnosis

CS3: Interpret the basic and advanced laboratory data to arrive at a definitive diagnosis

CS4: Decide appropriate laboratory investigations relevant to forensic odontology

Clinical Skills

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

PS1: Operate basic and advanced diagnostic equipment in the laboratory

PS2: Perform routine laboratory procedures

PS3: Display competence in performing advanced diagnostic techniques

PS4: Perform laboratory investigations relevant to oral oncology and forensic odontology

Transferable Skills

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

TS1: Function as competent Oral Pathologist in any given situation

TS2: Work in hospital based set up in liaison with medical set up

TS3: Conduct research and disseminate findings to the stake holders

TS4: Work in a hospital based diagnostic set up

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**

Programme specialization Teaching Module (CSTM) 1 - 6

There are two components-
Component 1 (Continuous Evaluation of Module CEM) for PSTM 1-6
Component 2 (Programme End Exam CEE),

a. C**omponent 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. C**omponent 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

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 (General and oral), Cell Biology, General Histology, Biochemistry, General Pathology, General and Systemic Microbiology, Virology, Mycology, Basic Immunology, Oral Biology (oral and dental histology), Biostatistics and Research Methodology

Part-II

Paper-I : Oral pathology, Oral Microbiology and Immunology and Forensic Odontology

Paper-II : Laboratory techniques and Diagnosis and Oral Oncology

Paper-III : Descriptive and analysing type question

Clinical Component

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

i. Long and short clinical case presentation (30 +20 marks)

ii. Any 2 Hematological investigations : Total leucocyte count, Differential leucocyte count, Hemoglobin estimation, ESR estimation, Bleeding time, Clotting time- 20 marks

iii. Staining of tissues using Hematoxylin and Eosin stain or any specific special stain- 20 marks

iv. Cytology smear preparation & staining OR Microbiological investigations including staining using either Ziehl Neelsen stain or Gram stain- 10 marks

v. Histopathological reporting of 10 slides- 100 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

31 Curriculum Map

Module Code	Knowledge & Understanding				Cognitive Skills				Clinical Skills			
	KU1	KU2	KU3	KU4	CS1	CS2	CS3	CS4	PS1	PS2	PS3	PS4
PGOPM01	X	-	-	-	-	-	-	X	X	-	-	-
PGOPM02	X	X	X	X	X	X	X	X	X	X	X	X
PGOPM03	X	X	X	X	X	X	X	X	X	X	X	X
PGOPM04	X	X	X	X	X	X	X	X	X	X	X	X

PGOPM05	X	X	X	X	X	X	X	X	X	X	X	X
PGOPM06	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							
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
PGOPM01	X	X	X	X	X	X	X	X	
PGOPM02	X	X	X	X	X	X	X	X	X
PGOPM03	X	X	X	X	X	X	X	X	X
PGOPM04	X	X	X	X	X	X	X	X	X
PGOPM05	X	X	X	X	X	X	X	X	X
PGOPM06	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 organise 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.