



**Programme Structure and Course Details
of
Master of Dental Surgery
in
Periodontology
Batch 2025 onwards**

**Faculty of Dental Sciences
Department of Periodontology**

KVK
Dean, Faculty of Dental Sciences
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 084

Sheikh
Registrar

M.S. Ramaiah University of Applied Sciences

Approved by the Academic Council at its 34th meeting held on 8th March 2025



University's Vision, Mission and Objectives

The M. S. Ramaiah University of Applied Sciences (MSRUAS) will focus on student-centric professional education and motivates its staff and students to contribute significantly to the growth of technology, science, economy and society through their imaginative, creative and innovative pursuits. Hence, the University has articulated the following vision and objectives.

Vision

MSRUAS aspires to be the premier university of choice in Asia for student centric professional education and services with a strong focus on applied research whilst maintaining the highest academic and ethical standards in a creative and innovative environment

Mission

Our purpose is the creation and dissemination of knowledge. We are committed to creativity, innovation and excellence in our teaching and research. We value integrity, quality and teamwork in all our endeavors. We inspire critical thinking, personal development and a passion for lifelong learning. We serve the technical, scientific and economic needs of our Society.

Objectives

1. To disseminate knowledge and skills through instructions, teaching, training, seminars, workshops and symposia in Engineering and Technology, Art and Design, Management and Commerce, Health and Allied Sciences, Physical and Life Sciences, Arts, Humanities and Social Sciences to equip students and scholars to meet the needs of industries, business and society
2. To generate knowledge through research in Engineering and Technology, Art and Design, Management and Commerce, Health and Allied Sciences, Physical and Life Sciences, Arts, Humanities and Social Sciences to meet the challenges that arise in industry, business and society
3. To promote health, human well-being and provide holistic healthcare
4. To provide technical and scientific solutions to real life problems posed by industry, business and society in Engineering and Technology, Art and Design, Management and Commerce, Health and Allied Sciences, Physical and Life Sciences, Arts, Humanities and Social Sciences
5. To instill the spirit of entrepreneurship in our youth to help create more career opportunities in the society by incubating and nurturing technology product ideas and supporting technology backed business
6. To identify and nurture leadership skills in students and help in the development of our future leaders to enrich the society we live in
7. To develop partnership with universities, industries, businesses, research establishments, NGOs, international organizations, governmental organizations in India and abroad to enrich the experiences of faculties and students through research and developmental programmes

Programme Structure and Course Details of MDS in Periodontology 2025

Programme Specifications: MDS in Periodontology

Faculty	Dental Sciences
Department	Periodontology
Programme Code	066
Programme Name	MDS in Periodontology
Dean of the Faculty	Dr. Silju Mathew
Head of the Department	Dr. Ashwini S

1. **Title of the Award:** MDS in Periodontology
2. **Mode of Study:** Full-Time
3. **Awarding Institution /Body:** M. S. Ramaiah University of Applied Sciences, Bengaluru
4. **Joint Award:** Not Applicable
5. **Teaching Institution:** Faculty of Dental Sciences, M. S. Ramaiah University of Applied Sciences, Bengaluru
6. **Date of Programme Specifications:** March 2025
7. **Date of Programme Approval by the Academic Council of MSRUAS:** 8th March 2025
8. **Next Review Date:** March 2028
9. **Programme Approving Regulating Body and Date of Approval:**
10. **Programme Accredited Body and Date of Accreditation:**
11. **Grade Awarded by the Accreditation Body:**
12. **Programme Accreditation Validity:**
13. **Programme Benchmark:**
14. **Rationale for the Programme**

Periodontics is a specialty of dentistry which encompasses the prevention, diagnosis and treatment of diseases of the supporting and surrounding tissues of the teeth or their substitutes and the maintenance of the health, function and esthetics of these structures and tissues. Since periodontal diseases are one of the largest causes of tooth mortality it becomes very essential to enhance awareness amongst all populations and health care professionals. Adequate knowledge of the subject is of utmost importance in early identification and proper treatment of periodontal diseases.

In the Indian population the awareness regarding periodontal health needs to be enhanced to a higher level in order to improve the quality of life amongst them. This can be achieved by providing quality education to the budding periodontists to cater to the increasing demands.

Periodontal disease has been linked to many other systemic diseases, like diabetes, cardiovascular disease, rheumatoid arthritis, Alzheimer's disease and so on. Also periodontal disease presents a serious public health problem, with millions of individuals across the globe

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Registrar

M.S. Ramaiah University of Applied Sciences
Bengaluru - 560 054

Programme Structure and Course Details of MDS in Periodontology 2025

being affected by it. Knowing the impact of periodontal health on general health, it is crucial for people to maintain healthy teeth and gums. This includes diligent home care, as well as receiving an annual comprehensive periodontal evaluation from a dental professional at least once a year. Treatment of periodontal disease in patients with systemic health problems helps improve control of the disease.

All these situations provide a huge platform for research in this specialty opening newer avenues for advances diagnosis, treatment and maintenance. This provides a strong rationale to incorporate periodontics as a specialty in dental education.

15. Programme Mission

The aims of postgraduate training in Periodontology are to train the postgraduates to practice Periodontics efficiently and effectively, backed by scientific knowledge and skill. They should be able to exercise empathy and a caring attitude and maintain high ethical standards and continue to evince keen interest in continuing professional education in their specialty and allied specialties irrespective of whether in teaching or practice. The students should be willing to share the knowledge and skills with any learner, junior or a colleague. Finally to develop the faculty for critical analysis and evaluation of various concepts and views, to adopt the most rational approach.

16. Graduate Attributes (GAs)

- GA-1. Oral health knowledge:** Ability to apply knowledge of basic and applied medical and dental science to address oral health issues.
- GA-2. Problem Analysis:** Ability to analyse oral health problems, interpret data and arrive at meaningful conclusions involving appropriate investigations and diagnosis.
- GA-3. Provide Solutions:** Ability to understand the etiopathology, clinical features of oral disease and provide solutions considering public health and safety, and the cultural, societal, and environmental considerations
- GA-4. Conduct Investigations of Complex Problems:** Ability to understand and solve complex clinical situations by conducting experimental investigations
- GA-5. Modern Tool Usage:** Ability to apply appropriate tools and techniques and understand utilization of resources appropriately to oral health activities
- GA-6. The Dental Expert and Society:** Ability to understand the effect of oral health solutions on legal, cultural, social, and public health and safety aspects
- GA-7. Environment and Sustainability:** Ability to develop sustainable solutions and understand their effect on society and environment
- GA-8. Ethics:** Ability to apply ethical principles to dental practices and professional responsibilities
- GA-9. Individual and Teamwork:** Ability to work as a member of a team, to plan and to integrate knowledge of various dental and allied disciplines and to lead teams in multidisciplinary settings

Approved by the Academic Council at its 34th meeting held on 8th March 2025

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Programme Structure and Course Details of MDS in Periodontology 2025

GA-10. Communication: Ability to make effective oral presentations and communicate technical ideas to a broad audience using written and oral means

GA-11. Project Management and Finance: Ability to lead and manage multidisciplinary teams by applying financial principles for practice management.

GA-12. Life-long learning: Ability to adapt to the changes and advancements in technology and engage in independent and life-long learning

17. Programme Outcomes (POs)

MDS in Periodontology graduates will be able to:

PO1. Impart knowledge on growth and development of stomatognathic system in general and the periodontium in particular

PO2. Enhance the understanding of the common oral and systemic diseases affecting the periodontium including the etiology, clinical manifestations and differential diagnosis

PO3. Critically analyze the various treatment options and deliver it with most efficient manner based on evidence based dentistry

PO4. Impart knowledge, skill in the science and practice of Oral Implantology

PO5. Impart training on instruments and techniques for various procedures for periodontal treatment.

PO6. Provide a general perspective and opportunities for a career in periodontics

18. Programme Goal

The programme goal is to produce graduates having critical, analytical and problem-solving skills, and ability to think independently, and to pursue a career in Periodontology

19. Program Educational Objectives (PEOs)

The objectives of MDS in Periodontology Programme are to:

PEO-1. Provide students with a strong foundation in basic and applied medical and dental sciences to address oral health issues to enable them to devise and deliver efficient solutions to challenging problems pertaining to supporting structures of the teeth

PEO-2. Impart analytic and cognitive skills required to develop innovative solutions for R&D, Industry, and societal requirements as related to Periodontology

PEO-3. Provide sound theoretical and practical knowledge of oral health sciences, managerial and entrepreneurial skills to enable students to contribute to the well-being and welfare of the society

PEO-4. Inculcate strong human values and social, interpersonal and leadership skills required for professional success in evolving global professional environments

20. Programme Specific Outcomes (PSOs)

At the end of MDS in Periodontology programme, the graduates will be able to:

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Programme Structure and Course Details of MDS in Periodontology 2025

- PSO-1.** Apply the knowledge of etiopathogenesis, diagnosis and the inter-relationship of periodontal diseases with systemic conditions and adapt preventive measures for treatment of periodontal disease
- PSO-2.** Adapt newer trends and technologies in periodontology with appropriate treatment plan for the restoration of periodontal health
- PSO-3.** Demonstrate basic and advanced surgical regenerative procedures and supportive periodontal therapy
- PSO-4.** Develop multi-disciplinary approach for comprehensive treatment and develop research project

21. Programme Structure:

Year 1							
Sl. No.	Code	Course Title	Theory (H/W/Y)	Tutorials (H/W/Y)	Practical (H/W/Y)	Total Credits	Max. Marks
1	POC501B	Preclinical and Clinical Phase Basics	5	0	29	48	400
2	MF501A	Clinical Photography*	-	-	1	1	20
3	MF502A	Basic and Advanced Life Support*	-	-	1	1	20
4	MF503A	Personality Development and Soft Skills*	-	-	1	1	20
5	MF504A	Law for Dental Professionals*	-	-	1	1	20
6	MR501A	Research Methodology	1	-	1	2	40
7	MR504A	Dissertation	-	1	-	2	-
8		Part I - Programme End Examination	-	-	-	-	100
Total			6	1	34	56	620
Total number of contact hours per week			36				

*Faculty Common Modules are conducted for 30 hours as 1 credit modules

Year 2							
Sl. No.	Code	Course Title	Theory (H/W/Y)	Tutorials (H/W/Y)	Practical (H/W/Y)	Total Credits	Max. Marks
1	POC502B	Clinical Phase Intermediate	5	0	27	48	400
2	MR502A	Short term project/Group project	-	-	1	6	100
3	MR503A	Library Dissertation	-	1	-	4	60
4	MR504A	Dissertation	-	1	3	10	
5	MR505A	Conference presentation	-	1	-	1	20
6	MF505A	Teacher Training Module	1	-	-	1	20
7	MG501A	Training in any other institution in India or Abroad	1	-	-	3	60
Total			7	3	31	73	660
Total number of contact hours per week			36				

Handwritten signature

Red

M.S. Ramaiah University of Applied Sciences
Approved by the Academic Council at its 34th meeting held on 8th March 2025

Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

5
Handwritten signature

Programme Structure and Course Details of MDS in Periodontology 2025

Year 3							
Sl. No.	Code	Course Title	Theory (H/W/Y)	Tutorials (H/W/Y)	Practical (H/W/Y)	Total Credits	Max. Marks
1	POC503B	Clinical Phase Advanced	3	0	33	24	400
2	MR504A	Dissertation	-	2	2	6	200
3	MR506A	Journal Publication	-	1	-	1	20
4		Part II - Programme End Examination	-	-	-	20	600
Total			3	3	35	51	1220
Total number of contact hours per week			36				

22. Course Delivery:

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

23. Teaching and Learning Methods

- a. Team Teaching/ Integrated Teaching
- b. Face to Face Lectures using Audio-Visuals
- c. Seminars/journal clubs/e-lectures
- d. Case Based Discussions
- e. Group Discussions, Debates, Presentations
- f. Demonstrations on videos, computers and models
- g. Clinical based learning
- h. Hospital based learning
- i. Laboratory work
- j. Dissertation/ Group Project work
- k. School visits/Outreach center visits
- l. Interdepartmental meets
- m. Continuing dental education programs/symposiums/workshops
- n. State/National/International conferences and conventions

24. Assessment and Grading

24.1. Components of Grading

Programme Specialization Teaching Course (PSTC) 1 - 3

There are two components-

a. Component 1 (Continuous Evaluation)

Year 1:

There are 2 components

i. Theory component consisting of

- a. Assignment to be submitted as a word processed document for 100 marks consisting of-Section A and Section B
- b. Assessment as a Mock written examination for Part 1 of component 2 for 100 marks consisting of Section A and Section B

ii. Clinical component consisting of

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Programme Structure and Course Details of MDS in Periodontology 2025

Two clinical case discussion/clinical examination (80 marks each) along with Viva Voce (20 marks each) on the course content

Year 2:

There are 2 components

iii. Theory component consisting of

- a. Assignment to be submitted as a word processed document for 100 marks consisting of Section A and Section B
- b. Assessment as a written examination for 100 marks consisting of Section A and Section B

iv. Clinical component consisting of

Two clinical case discussion/clinical examination (80 marks each) along with Viva Voce (20 marks each) on the course content

Year 3:

There are 2 components

v. Theory component consisting of

- a. Assignment to be submitted as a word processed document for 100 marks consisting of Section A and Section B
- b. Assessment as a Mock written examination for Part 2 of Component 2 for 300 marks

vi. Clinical component consisting of

- a. Clinical case discussion/clinical examination (80 marks) along with Viva Voce (20 marks) on the course content
- b. Assessment as a Mock Clinical examination for Part 2 of Component 2 for 300 marks

b. Component 2 (Programme End Exam PEE)

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, and Biochemistry, Pathology, Microbiology, Pharmacology, Research Methodology and Biostatistics

Part-II

Paper-I: Normal Periodontal structure, Etiology and Pathogenesis of Periodontal diseases and epidemiology as related to Periodontics

Paper II: Periodontal diagnosis, therapy and Oral Implantology

Paper III: Descriptive and analysis type question

Clinical Component

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

- i. Case discussion and performing a periodontal flap surgery for one quadrant- 140 marks
- ii. Case discussion and planning of comprehensive periodontal treatment regimen - 60 marks

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Programme Structure and Course Details of MDS in Periodontology 2025

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.

25. Student Support for Learning

1. Course 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

26. Quality Control Measures

1. Review of Course Notes
2. Review of Question Papers and Assignment Questions
3. Student Feedback
4. Moderation of Assessed Work
5. Opportunities for students to PEE 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)

RUL

Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025

VA
Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054



Programme Structure and Course Details of MDS in Periodontology 2025

27. Programme Map (Course-PO-PSO Map)

Year	Course Title	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PSO-1	PSO-2	PSO-3	PSO-4
1	Preclinical and Clinical Phase Basics	3	3	3	3	3	3	3	3	3	3
1	Clinical Photography*		2	2	2	2	2	2	2		
1	Basic and Advanced Life Support*			2	2						2
1	Personality Development and Soft Skills*						2				2
1	Law for Dental Professionals*			2							2
1	Research Methodology			3							3
2	Clinical Phase Intermediate	3	3	3	3	3	3	3	3	3	3
2	Short term project/Group project			3							3
2	Library Dissertation			3							3
2	Conference presentation			3							3
2	Teacher Training Module						2				2
2	Training in any other institution in India or Abroad	2	2	2	2	2	2	2	2	2	2
3	Clinical Phase Advanced	3	3	3	3	3	3	3	3	3	3
3	Dissertation			3							3
3	Journal Publication			3							3
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution											

28. Co-curricular Activities

Students are encouraged to take part in co-curricular activities like seminars, conferences, symposia, paper writing, attending industry exhibitions, project competitions and related activities for enhancing their knowledge and networking.

29. Cultural and Literary Activities

Annual cultural festivals are held to showcase the creative talents in students. They are involved in planning and organizing the activities.

30. Sports and Athletics

Students are encouraged to take part in sports and athletic events regularly. Annual sports meet will be held to demonstrate sportsmanship and competitive spirit.

R.M.

Dean, Academic
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

V.H.

Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054



Approved by the Academic Council at its 34th meeting held on 8th March 2025

Programme Structure and Course Details of MDS in Periodontology 2025

Course Specifications

Course Title	Preclinical and Clinical Phase Basics
Course Code	POC501B
Course Type	Programme Specialization Teaching Course
Department	Periodontology
Faculty	Dental Sciences

1. Course Summary

This course aims to train the students to understand the development of periodontal anatomy and disease and to understand etiopathogenesis and treat periodontal disease with emphasis on the preventive aspects.

The students are trained to elicit clinical history, examine intra oral structures while recording different indices for periodontal diseases. The students will be able to interpret appropriate diagnostic procedures and formulate an effective treatment plan. The students will be able to categorize instruments to perform basic periodontal procedures. The student will be able to meticulously record patient clinical data and draw inferences. The student will demonstrate suturing techniques on models. The student will also provide non-surgical treatment for medically compromised patients. The student will be able to perform splinting, coronoplasty procedures, scaling, root planning procedures on the patients. The student will be able to educate and motivate the patient for various preventive oral hygiene measures and procedures.

2. Course size and credits:

Number of Credits	48
Credit Structure (Lecture: Tutorial: Practical)	16:0:32
Total Hours of Interaction	1800
Number of Weeks in a Year	50
Department Responsible	Periodontology
Total Course Marks	400
Pass Criterion	As per the Academic Regulations
Attendance Requirement	As per the Academic Regulations

3. Course Outcomes (COs)

After the successful completion of this Course, the student will be able to:

- CO-1. Describe the etiopathogenesis, clinical signs and symptoms of periodontal disease including applied basic anatomy and pathology
- CO-2. Describe the prognostic and risk factors their influence on for periodontal disease
- CO-3. Analyze the influence of systemic conditions and diseases on periodontal health and disease
- CO-4. Categorize instruments and demonstrate instrument skills on models and patients
- CO-5. Plan appropriate treatment based on clinical, laboratory and radiological findings through empathetic patient assessment for periodontal diseases
- CO-6. Perform non-surgical and minor surgical treatment strategies for periodontal disease including treatment of medically compromised patients

[Signature]

Dean, Academics

M.S. Ramaiah University of Applied Sciences

Approved by the Academic Council at its 34th meeting held on 8th March 2025

[Signature]
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054



4. Course Contents

Theory

UNIT 1: Applied Anatomy -Development of Periodontium, Temporomandibular joint, Maxillae and Mandible, Nerves of Periodontium, Tongue, oropharynx, Muscles of mastication

UNIT 2: Physiology of Head and Neck-Blood, Respiratory system, Cardiovascular system ,Blood pressure, Normal ECG, Shock, Endocrinology – hormonal influences on Periodontium, Gastrointestinal system, Salivary secretion – composition, function & regulation, Reproductive physiology, Hormones – Actions and Regulations, role in periodontal disease, Nervous system, Pain pathways, Taste – Taste buds, primary taste sensation & pathways for sensation

UNIT 3: Basics of Microbiology and General Pathology- General bacteriology-Identification of bacteria ,Culture media and methods, Sterilization and disinfection, Immunology and Infection, Systemic bacteriology with special emphasis on oral microbiology – staphylococci, genus actinomyces and other filamentous bacteria and Aggregatibacter actinomycetemcomitans, Virology- General properties of viruses, Herpes, Hepatitis, virus, HIV virus, Mycology, Candidiasis, Applied microbiology, Diagnostic microbiology and immunology, hospital infections and management, Descriptive Knowledge of Drugs and Applied Pharmacotherapeutics, Classification and Epidemiology of Periodontal Disease.

UNIT 4: Cell structure and metabolism, Inflammation and repair, necrosis and degeneration, Immunity and hypersensitivity, blood, Circulatory disturbances – edema, hemorrhage, shock, thrombosis, embolism, infarction and hypertension, Disturbances of nutrition, Diabetes mellitus, Cellular growth and differentiation, regulation, Lab investigations.

UNIT 5: Anatomy of Normal Periodontium- Micro and Macro structural anatomy and biology of the periodontal tissues, Blood supply of the Periodontium, Lymphatic system of the Periodontium, Nerves of the Periodontium, Age changes in the periodontal tissues.

UNIT 6: Periodontal Diagnosis- History, examination, diagnosis, prognosis and treatment planning-Clinical diagnosis, Radiographic and other aids in the diagnosis of periodontal diseases, Advanced diagnostic techniques, Risk assessment, Determination of prognosis, Treatment plan, Rationale for periodontal treatment, General principles of anti-infective therapy with special emphasis on infection control in periodontal practice, Halitosis and its treatment, Bruxism and its treatment

UNIT 7: Basics of Treatment Aspects including Scaling and Root Planing-Instrumentation, Principles of periodontal instrumentation, Instruments used in different parts of the mouth

Unit 8.Etiopathogenesis of Periodontal Diseases- Classification of periodontal diseases and conditions, Epidemiology of gingival and periodontal diseases, Defense mechanisms of gingiva, Periodontal microbiology, Basic concepts of inflammation and immunity, Microbial interactions with the host in periodontal diseases, Pathogenesis of plaque associated periodontal diseases, Dental calculus, Role of iatrogenic and other local factors, Genetic factors associated with periodontal diseases, Influence of systemic diseases and disorders of the periodontium, Role of environmental factors in the etiology of periodontal disease, Stress and periodontal diseases, Occlusion and periodontal diseases, smoking and tobacco in the etiology of periodontal diseases, AIDS and

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Programme Structure and Course Details of MDS in Periodontology 2025

periodontium, Dentinal hypersensitivity, Plaque Control for Periodontal Patients, Gingival Enlargement, Acute Gingival Infections

Unit 9. Non-Surgical Therapy- Phase I Treatment Protocol-Preparation of tooth surface, Plaque control, Local drug delivery in periodontal therapy and wasting diseases of teeth, Periodontal management of HIV infected patients, Occlusal evaluation and therapy in the management of periodontal diseases, Special emphasis on precautions and treatment for medically compromised patients, Periodontal splints, Management of dentinal hypersensitivity.

Unit 10. Minor Surgical Procedures: Gingival Surgical Techniques -Gingival curettage- Rationale, indications, Procedure, Healing, Clinical appearance after scaling and curettage, Gingivectomy technique- Indications & contraindications, gingivoplasty, healing, Frenectomy, Frenotomy, abscess drainage, operculectomy and depigmentation

Unit 11. Systems Biology: SPT including Risk Assessment, Advanced Diagnostic Aids.

Preclinical Work

S.No.	Preclinical Exercises and clinical work done	Total Numbers to be completed
1.	Practice of incisions and suturing techniques on models	All types of incisions & suturing techniques - 1
2.	Fabrication of Bite Guards & Splints on models	Bite Guard – 1 Wire Splints-2 Fibre splint - 2
3.	Occlusal adjustment on casts	1
4.	X Ray Techniques & interpretation	10
5.	Local Anesthetic Techniques	Demonstration on skull – All blocks
6.	Wasting Diseases	Preparation of wasting diseases on Models – 1each
7.	Furcation Defects	Preparation of Furcation defects on Models – 1each
8.	Recession	Preparation of Recession defects on Models – 1each
9.	Gingival Enlargement & Abscesses	Preparation of Gingival enlargement & Abscesses on Models – 1each
10.	Class II Preparation and restoration with band and wedge	Typhodont – 2
11.	Crown preparation	Typhodont-2 (1 Anterior & 1 Posterior)
12.	Periodontal Indices	10 cases
13.	Case history recording, Treatment planing	10 cases
14.	Hand Scaling & Root planing	25 cases
15.	Ultrasonic Scaling	50 cases
16.	Frenectomy & Frenotomy (Scalpel Method)	5 cases
17.	Gingivectomy & Gingivoplasty (Scalpel Method)	5 cases

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Programme Structure and Course Details of MDS in Periodontology 2025

18.	Abscess Drainage	5 cases
19.	Curettage	10 cases
20.	Depigmentation	2 cases
21.	ENAP	2 cases
22.	Operculectomy	5 cases

Clinical Work

1. Comprehensive non-surgical periodontal management including Case history recording, scaling both hand and ultrasonic, root planing, splinting and coronoplasty. Abscess drainage - 50 cases

5. Course Map (CO-PO-PSO Map)

	Programme Outcomes (POs)						Programme Specific Outcomes (PSOs)			
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PSO-1	PSO-2	PSO-3	PSO-4
CO-1	3	3					3			
CO-2	3	3	1				3			1
CO-3	2	3	2				3			2
CO-4		2			3		1	1		
CO-5		1	3		3		2	1		3
CO-6		2	3		3		2	1		3

3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution

6. Course Teaching and Learning Methods

Teaching and Learning Methods	Duration in Hours
Classroom Interaction	
1. Face to Face Lectures	05
2. Seminars, Journal clubs, IDM	180
3. Guest Lecture	05
4. Brain Storming Sessions / Group Discussions/ Discussing Possible Innovations	26
5. Case Study Presentation	24
Demonstration	
1. Demonstration using Videos	20
2. Demonstration using Physical Models/Systems	20
3. Demonstration on a Computer	--
Clinical Work	
1. Pre-Clinical area	400
2. Clinical Area	990
3. Hospital Setup	
4. Dental camp	
5. Outreach centres	50
6. Industry/Field Visit	--
Term Tests, Laboratory Examination/Written Examination, Presentations	80
Total Duration in Hours	1800

1480 Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025

7. Course Assessment and Reassessment

The details of the components and subcomponents of course assessment are presented in the Programme Specifications document pertaining to the MDS in Periodontology Programme. The procedure to determine the final course marks is also presented in the Programme Specifications document. The evaluation questions are set to measure the attainment of the COs. In either component (CE or PEE) or subcomponent of CE (SC1, SC2, SC3 or SC4), COs are assessed as illustrated in the following Table.

Focus of COs on each Component or Subcomponent of Evaluation				
	Component 1: CE			
Subcomponent ►	Theory		Practical/Clinical	
Subcomponent Type ►	SC1 - Written assessment	SC2 - Assignment	SC3 - Clinical Assessment and Viva Voce I	SC4 - Clinical Assessment and Viva Voce II
Maximum Marks ►	100	100	100	100
CO-1	x			x
CO-2	x	x		x
CO-3	x	x		x
CO-4				x
CO-5		x	x	x
CO-6		x	x	x
The details of SC1, SC2, SC3 or SC4 are presented in the Programme Specifications Document.				

The Course Leader assigned to the Course, in consultation with the Head of the Department, shall provide the focus of COs in each component of assessment in the above template at the beginning of the academic year. Course reassessment policies are presented in the Academic Regulations document.

8. Achieving COs

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods:

S. No	Curriculum and Capabilities Skills	How imparted during the Course
1.	Knowledge	Classroom lectures
2.	Understanding	Classroom lectures, Self-study
3.	Critical Skills	Assignment
4.	Analytical Skills	Assignment
5.	Problem Solving Skills	Assignment, Examination, Practical/Clinical work
6.	Practical Skills	Assignment, Practical/Clinical work
7.	Group Work	Group Project, IDM
8.	Self-Learning	Self-study
9.	Written Communication Skills	Assignment, Examination
10.	Verbal Communication Skills	Patient interaction, Viva - Voce

Handwritten signature

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 075

Approved by the Academic Council at its 34th meeting held on 8th March 2025

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 075



Programme Structure and Course Details of MDS in Periodontology 2025

11.	Presentation Skills	Seminar, JC, IDM, Conference
12.	Behavioral Skills	Chair side Patient management, Peer Interaction
13.	Information Management	ICT, Case Records, EHR
14.	Personal Management	Record Maintenance
15.	Leadership Skills	Group Projects, Workshops, Seminars etc.

9. Course Resources

a. Essential Reading

1. B.D.Chaurasia's (2010) Human Anatomy, volume 3, 6th edition CBS publishers
2. Newmann, Carranza's (2011) Clinical Periodontology, 10th edition Elsevier
3. Guyton & Hall (2010) Text book of Medical Physiology – 12th edition Elsevier
4. Ganong's (2012) review of Medical Physiology, 23rd edition New York publisher
5. Ananthanarayanan and Paniker (2005), Textbook of Microbiology 7th edition
6. Jan Lindhe (2008) Clinical Periodontology and Implant Dentistry -, 5th Edition Blackwell Munksgaard
7. Berkovitz (2009) Oral Anatomy Histology and Embryology 4th Edition COSby, Elsevier
8. Shafer's (2009) Textbook Of Oral Pathology, 6th edition Elsevier
9. Cohen E (2006) Atlas of Cosmetic and Reconstructive Periodontal Surgery 3rd edition

b. Recommended Reading

1. JK Avery (2006) Essentials of Oral Histology and Embryology: A Clinical Approach – 4th edition. Elsevier
2. Robert I. Handin (2005) Blood: Principles and Practice of Hematology - 2nd edition Wilkins and Wilsons
3. Richard S. Weiner (2001) Pain Management: A Practical Guide for Clinicians, 6th Edition Boswell publication
4. Colin A. Pinnock (2009) Fundamentals of Anaesthesia, 3rd edition Cambridge university press
5. Drake Gray's (2010) Anatomy for students 2nd edition Elsevier
6. Sanjay Saraf (2003), Textbook of Oral Pathology, Jaypee publishers.
7. American Academy of Periodontology (2001). Glossary of periodontal terms. 4th ed. Chicago: American Academy of Periodontology.
8. Chai, Lei and Keung (2002), Current Trends in Periodontology and Implant Dentistry, Nova Science publishers.
9. Amin E. Hatem (2005), Epidemiology and Risk Factors of Periodontal Disease.
10. Nurcan Buduneli (2004), Pathogenesis and Treatment of Periodontitis.
11. Rose LF, Mealey BL (2004). Periodontology: Medicine, Surgery and Implants. Elsevier Mosby.
12. Seminars in Orthodontics, volume 14

c. Journals

1. Journal of Periodontology
2. Journal of Clinical Periodontology
3. Journal of Periodontal Research
4. International Journal of Periodontics and Restorative Dentistry.
5. Critical Care Pharmacotherapeutics
6. Applied Health Economics and Health Policy (2014): 1-14.
7. Perio 2000
8. Journal of Biomechanics



Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054



Approved by the Academic Council at its 34th meeting held on 8th March 2025

Programme Structure and Course Details of MDS in Periodontology 2025

d. Websites

1. silversword.files.wordpress.com/.../blood-and-nerve-supply-to-the-perio...
2. www.dental.pitt.edu/informatics/periohistology/en/gu0211.htm
3. www.endoexperience.com/.../2011-contemporarydiagnosisperio.pdf
4. www1.umn.edu/perio/dds6111/Risk_&_Prognosis_SS12.pdf
5. www1.umn.edu/perio/dds6111/Treatment_Plan_SS12.pdf



Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054



Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025



Programme Structure and Course Details of MDS in Periodontology 2025

Course Title	Clinical Phase Intermediate
Course Code	POC502B
Department	Periodontology
Faculty	Dental Sciences

1. Course Summary

The students will be able to correlate systemic and periodontal conditions of patients and appropriately devise a treatment plan. Students will be trained in administration of various chemotherapeutic treatment modalities. The students will understand and apply principles of periodontal surgery and continue to perform minor surgical procedures. Students are trained to perform major surgical procedures for management of periodontal pockets, osseous defects and furcation involvement and learn to integrate multiple disciplines in the treatment of complex periodontal conditions.

2. Course Size and Credits

Number of Credits	48
Credit Structure (Lecture: Tutorial: Practical)	20:0:28
Total Hours of Interaction	1800
Number of Weeks in a Year	50
Department Responsible	Periodontology
Total Course Marks	400
Pass Criterion	As per the Academic Regulations
Attendance Requirement	As per the Academic Regulations

3. Course Outcomes (COs)

After the successful completion of this Course, the student will be able to:

- CO-1.** Differentiate periodontal diseases requiring systemic, local drug delivery and host modulation therapy and apply clinically
- CO-2.** Describe the principles of surgery for periodontal therapy and differentiate the merits and demerits of flap designs and plan surgical procedures accordingly
- CO-3.** Demonstrate different incisions and suturing techniques and Perform periodontal surgery for management of pockets
- CO-4.** Plan and perform complex surgical treatment for various periodontal flap designs and simple perioesthetic conditions with empathy
- CO-5.** Discuss applications of LASER and cautery in periodontology and perform minor surgical procedures using the same
- CO-6.** Manage complex periodontal diseases through an interdisciplinary approach

4. Course Contents

Theory

Unit 1: General Principles of Periodontal Surgery & Treatment Planning- Patient Preparation, Emergency equipment, Periodontal dressings, Management of post-operative pain, Surgical instruments- Excisional and incisional instruments, Surgical curettes and sickles, Periosteal elevators, Surgical chisels, Tissue forceps, Scissors and nippers, Needle holders


 Registrar
 M.S. Ramaiah University of Applied Sciences
 560 054


 Dean Academics
 M.S. Ramaiah University of Applied Sciences
 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025


 Dean
 M.S. Ramaiah University of Applied Sciences
 560 054

Programme Structure and Course Details of MDS in Periodontology 2025

Unit 2: Gingivectomy by electro surgery, Laser Gingivectomy, Gingivectomy by chemosurgery.

Unit 3: Treatment of gingival enlargement, Chronic inflammatory enlargement, periodontal and gingival abscess, Drug associated enlargements, leukemic enlargements, gingival enlargement in pregnancy

Unit 4: Non-Surgical Pocket Therapy, Chemotherapeutics- systemic administration of antibiotics, Serial and combination antibiotic therapy, Local delivery of antibiotics,- Tetracycline fibers, subgingival Dox, Subgingival Minocycline, subgingival metronidazole, Host Modulation Therapy- Host response, Host modulatory therapy, Host modulation and comprehensive periodontal management, Subantimicrobial dose doxycycline, Emerging Host modulatory therapies

Unit 5: Interdisciplinary Approaches including Perio-Restorative, Perio-Ortho, Perio-Endo and Perio-Prosthetics-Benefits of ortho therapy, preorthodontic osseous surgery, ortho treatment of gingival discrepancies

Unit 6: Sonic and Ultra Sonic Instrumentation- Mechanism of action, types of power instruments, efficacy and clinical outcomes, Efficiency, Special considerations (aerosol, Cardiac pacemakers), Supragingival and Subgingival Irrigation- Professionally delivered irrigation, Home irrigation, Clinical outcomes

Unit 7: Periodontal Maintenance- CIST- Supportive periodontal treatment- Rationale, Maintenance program- examination and evaluation, checking of plaque control, recurrence of periodontal disease, classification of post treatment patients, Tests for disease activity, Maintenance for dental implant patients

Unit 8: Results of periodontal treatment – Prevention and treatment of gingivitis, Tooth mortality Flap Technique for Pocket Therapy- Periodontal flap, Classification of flaps, Flap design, Incisions- Horizontal and vertical, Elevation of the flap, Suturing techniques, Healing after flap surgery, Modified Widman Flap, Undisplaced flap, Apically displace flap, Flaps for reconstructive therapy, Distal Molar surgery

Unit 9: Furcation; Problem and its management-Etiology, Diagnosis and classification, Local Anatomic factors- Root trunk length, root length, root form, interradicular dimensions, anatomy of furcation, Anatomy of Bony lesions, Treatment- Root resection, hemisection, Reconstruction, Hemiseptal defects

Unit 10: The periodontic – endodontic continuum- Pulpal disease, Effects of periodontitis on Dental pulp, Differentiation between pulpal and periodontal abscess and management, Therapeutic management of pulpal and periodontal disease, Special issues in endodontic therapy, Advanced Gingival Surgical Techniques, Management of Periodontal Emergencies.

Clinical Work

S.No.	Clinical work done	Total Numbers to be completed
1.	Case History & Treatment Planing	10 cases
2.	Occlusal adjustments	5 Cases
3.	LDD	5 Cases
4.	Basic Flap Procedures	50 Cases
5.	Crown Lengthening Procedures	5 Cases
6.	Ultrasonic Scaling & Root Planing	50 cases
7.	Frenectomy & Frenotomy (Cautery & LASER techniques)	5 cases

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Dean - Academics

M.S. Ramaiah University of Applied Sciences
Approved by the Academic Council at its 34th meeting held on 8th March 2025

Programme Structure and Course Details of MDS in Periodontology 2025

8.	Gingivectomy & Gingivoplasty (Cautery & LASER techniques)	5 cases
9.	Operculectomy (Cautery & LASER techniques)	5 cases
10.	Interdisciplinary Management of Periodontal Diseases	a. Perio – Endo – 5 case b. Perio-Ortho – 2 cases c. Perio restorative – 2 cases d. Preprosthetic -2 cases e. Crown preparation – 2cases
11.	Furcation Involvement	Furcationplasty and Grade II Furcation Treatment – 5 cases
12.	Osseous Surgery	Regenerative Procedures – 10 cases Resective procedures – 2 cases

5. Course Map (CO-PO-PSO Map)

	Programme Outcomes (POs)						Programme Specific Outcomes (PSOs)			
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PSO-1	PSO-2	PSO-3	PSO-4
CO-1	3	2				1	3			
CO-2	3	2	3				3			
CO-3		2	3		2				2	
CO-4		2	3		2				3	
CO-5				3				3		
CO-6			3		2	2				3

3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution

6. Course Teaching and Learning Methods

Teaching and Learning Methods		Duration in Hours
Classroom Interaction		240
1. Face to Face Lectures	05	
2. Seminars, Journal clubs, IDM	180	
3. Guest Lecture	05	
4. Brain Storming Sessions / Group Discussions / Discussing Possible Innovations	18	
5. Case Study Presentation	32	
Demonstrations		1480
1. Demonstration using Videos	15	
2. Demonstration using Physical Models/Systems	15	
3. Demonstration on a Computer	--	
Clinical Work		1480
1. Pre-Clinical area	10	
2. Clinical Area	1290	
3. Hospital Setup	--	
4. Dental camp	50	

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Programme Structure and Course Details of MDS in Periodontology 2025

5. Outreach centres	100	
6. Industry/Field Visit	--	
Term Tests, Laboratory Examination/Written Examination, Presentations	80	
Total Duration in Hours	1800	

7. Course Assessment and Reassessment

The details of the components and subcomponents of course assessment are presented in the Programme Specifications document pertaining to the MDS in Periodontology Programme. The procedure to determine the final Course marks is also presented in the Programme Specifications document. The evaluation questions are set to measure the attainment of the COs. In either component (CE or PEE) or subcomponent of CE (SC1, SC2, SC3 or SC4), COs are assessed as illustrated in the following Table.

Focus of COs on each Component or Subcomponent of Evaluation				
Component 1: CE				
Subcomponent ▶	Theory		Practical/Clinical	
Subcomponent Type ▶	SC1 - Written assessment	SC2 - Assignment	SC3 - Clinical Assessment and Viva Voce I	SC4 - Clinical Assessment and Viva Voce II
Maximum Marks ▶	100	100	100	100
CO-1	x	x		x
CO-2	x	x		x
CO-3			x	x
CO-4	x	x		x
CO-5		x	x	x
CO-6	x	x	x	x
The details of SC1, SC2, SC3 or SC4 are presented in the Programme Specifications Document.				

The Course Leader assigned to the course in consultation with the Head of the Department, shall provide the focus of COs in each component of assessment in the above template at the beginning of the year. Course reassessment policies are presented in the Academic Regulations document.

8. Achieving COs

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods:

S. No	Curriculum and Capabilities Skills	How imparted during the Course
1.	Knowledge	Classroom lectures
2.	Understanding	Classroom lectures, Self-study
3.	Critical Skills	Assignment
4.	Analytical Skills	Assignment
5.	Problem Solving Skills	Assignment, Examination, Practical/Clinical work
6.	Practical Skills	Assignment, Practical/Clinical work
7.	Group Work	Group Project, IDM
8.	Self-Learning	Self-study

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Programme Structure and Course Details of MDS in Periodontology 2025

9.	Written Communication Skills	Assignment, Examination
10.	Verbal Communication Skills	Patient interaction, Viva - Voce
11.	Presentation Skills	Seminar, JC, IDM, Conference
12.	Behavioral Skills	Chair side Patient management, Peer Interaction
13.	Information Management	ICT, Case Records, EHR
14.	Personal Management	Record Maintenance
15.	Leadership Skills	Group Projects, Workshops, Seminars etc.

9. Course Resources

a. Essential Reading

1. Carranza, F. A., Newman, M. G., Takei, H. H., & Klokkevold, P. R. (2006). Carranza's
2. Clinical Periodontology. St. Louis, Mo, Saunders Elsevier.
3. Lindhe, J., Karring, T., & Lang, N. P. (2003). Clinical Periodontology and Implant Dentistry. Oxford, UK, Blackwell.

b. Recommended Reading

1. American Academy of Periodontology. (1989). Clinical Periodontology: 3rd World workshop: Discussions. AAP. AMIN E. HATEM. (2012). Epidemiology and Risk Factors of Periodontal Disease. INTECH Open Access Publisher.
2. Buduneli, N. (2012). Pathogenesis and Treatment of Periodontitis.

c. Journals

1. Journal of Periodontology
2. Periodontology 2000
3. Journal of Clinical Periodontology
4. Annals of Periodontology
5. Journal of Periodontal Research
6. Journal of Dental Research
7. Risk Markers of Oral Diseases
8. International Dental Journal
9. Journal of Immunology
10. Australian dental journal
11. Archives of oral biology
12. Quintessence International
13. Clinical Oral Implants Research
14. The Journal of Contemporary Dental Practice
15. World Journal of Dentistry

d. Websites

1. www.jisponline.com
2. www.joonline.org
3. www.onlinelibrary.wiley.com
4. www.jdr.sagepub.com
5. www.sciencedirect.com
6. www.ncbi.nlm.nih.gov
7. www.ijprd.com

e. Other Electronic Resources

VA

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054



Programme Structure and Course Details of MDS in Periodontology 2025

1. <https://ocw.mit.edu/index.htm>



Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054



Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025



Programme Structure and Course Details of MDS in Periodontology 2025

Course Title	Clinical Phase Advanced
Course Code	POC503B
Course Type	Program Specialization Teaching Course
Department	Periodontology
Faculty	Dental Sciences

1. Course Summary

This course aims to train the students in performing advanced aesthetic, resective, regenerative and rehabilitative periodontal surgical procedures. The student will perform perioplastic and microsurgical procedures. The student will be able to apply their knowledge of surgical anatomy in the planning and performance of dental implant procedures.

The students are trained to handle complex implant-based rehabilitation options. The students will be able to manage peri implant complications using both surgical and non-surgical means. The student will comprehend the possible legal outcomes related to comprehensive management of periodontal patients.

2. Course Size and Credits:

Number of Credits	24
Credit Structure (Lecture: Tutorial: Practical)	12:0:12
Total Hours of Interaction	1800
Number of Weeks in a Year	50
Department Responsible	Periodontology
Total Course Marks	400
Pass Criterion	As per the Academic Regulations
Attendance Requirement	As per the Academic Regulations

3. Course Outcomes (COs)

After the successful completion of this Course, the student will be able to:

- CO-1. Select appropriate surgical procedures for simple and complex periodontal conditions
- CO-2. Discuss and perform simple and advanced perioplastic and microsurgical procedures
- CO-3. Describe the anatomical and biomechanical implications of implant therapy and plan implant surgery using advanced imaging techniques
- CO-4. Perform implant surgery with emphasis on peri-implant aesthetics, maintenance and treatment of peri - implant complications
- CO-5. Discuss recent advances in surgical periodontal therapy and their applications in routine clinical practice
- CO-6. Explain legal and practical issues in comprehensive management of periodontal patients

4. Course Contents

Theory

UNIT 1: Preparation of Periodontium for Restorative and Prosthetic Dentistry, Periodontal Plastic and Aesthetic Surgery-Etiology of marginal tissue recession, Factors affecting surgical outcome, Techniques to increase attached gingiva- gingival augmentation apical to recession, gingival augmentation coronal to recession, Criteria for technique selection and Techniques to deepen vestibule, Techniques to remove aberrant frenum - frenectomy or frenotomy.

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Programme Structure and Course Details of MDS in Periodontology 2025

UNIT 2: Resective and Regenerative Osseous Surgery- Methods of Resective osseous surgery, Osseous Resection techniques, Graft materials and procedures, Non bone graft associated procedures, Evaluation of new attachment and periodontal reconstruction, Recent Advances in Surgical Technology including Microsurgery and LASERS- magnifying loupes, surgical microscope, Biological, Clinical and Diagnostic Aspects of Dental Implants- Introduction and historical review, Biological, clinical and surgical aspects of dental implants,

UNIT 3: Diagnosis and treatment planning- Imaging, Cross sectional imaging, Interactive simulation software program, Standard Implant Surgical Procedures- Implant selection and design considerations, General principles of implant surgery, Submerged and non-submerged implants, Prosthetic aspects of dental implants, Special emphasis on plaque control measures for implant patients.

UNIT 4: Localized Bone Augmentation and Implant Site Development including GBR-Barrier membranes, Harvesting autogenous bone, Localized ridge augmentation, Management of extractions- Immediate implants, Delayed implant, Staged implant, Delayed Vs Staged technique

UNIT 5: Advanced Implant Surgical Procedures- Maxillary sinus elevation and bone augmentation, Supracrestal /Vertical bone augmentation, Growth factors in bone augmentation

UNIT 6: Implant Related Complications and Failures- Diagnosis and treatment of Peri implant complications, Types and prevalence of implant complications, surgical complications, biologic complications- dehiscence and recession, peri-implantitis and bone loss, implant loss or failure, technical or mechanical complications- screw loosening and fracture, implant fracture, Esthetic and phonetic complications

UNIT 7: Evidence Based Decision Making, Ethical, Legal and Practical Issues in Comprehensive Management of Periodontal Patients; Jurisprudence-Practical considerations in ethical practice of dentistry, common periodontal malpractice issues, Legal elements of malpractice, Malpractice insurance.

Clinical Work

S.No.	Clinical work done	Total Numbers to be completed
1.	Basic Flap Procedures	20 Cases
2.	Osseous Surgery	Regenerative Procedures – 10 cases Resective procedures – 2 cases
3.	Management of Furcation Involvement	b. Root Resection-1case c. Hemisection – 1 case d. Tunelling Procedure – 2 case
4.	Perio esthetics	a. Increasing width of attached gingiva – 5 cases b. Root coverage – 5cases c. Papilla preservation and reconstruction – 3 cases d. Vestibuloplasty – 2 case
5.	Ridge augmentation procedures	2 cases
6.	Sinus Lift procedures	2 cases
7.	Implant placement	5 cases
8.	Microsurgery	5 cases

Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Programme Structure and Course Details of MDS in Periodontology 2025

5. Course Map (CO-PO-PSO Map)

	Programme Outcomes (POs)						Programme Specific Outcomes (PSOs)			
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PSO-1	PSO-2	PSO-3	PSO-4
CO-1	1	1	3	3	3	2	2		3	3
CO-2	1	1	3			2			3	3
CO-3	1	1	3	3	3	2		3		3
CO-4	1	1	3	3	3	2		3		3
CO-5	1	1			3	2		3		3
CO-6	1	1	3			3				3
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution										

6. Course Teaching and Learning Methods

Teaching and Learning Methods		Duration in Hours
Classroom Interaction		150
1. Face to Face Lectures	03	
2. Seminars, Journal clubs, IDM	90	
3. Guest Lecture	03	
4. Brain Storming Sessions / Group Discussions / Discussing Possible Innovations	26	
5. Case Study Presentation	28	
Demonstrations		1490
1. Demonstration using Videos	10	
2. Demonstration using Physical Models/Systems	--	
3. Demonstration on a Computer	--	
Clinical / Practical Work		
1. Pre-Clinical area	--	
2. Clinical Area	1330	
3. Hospital Setup	--	
4. Field work/dental camp	50	
5. Outreach centres	100	
6. Industry/Field Visit	--	
Term Tests, Laboratory Examination/Written Examination, Presentations	160	


Registrar
 M.S. Ramaiah University of Applied Sciences
 Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Programme Structure and Course Details of MDS in Periodontology 2025

Total Duration in Hours	1800
-------------------------	------

7. Course Assessment and Reassessment

The details of the components and subcomponents of Course assessment are presented in the Programme Specifications document pertaining to the MDS in Periodontology Programme. The procedure to determine the final Course marks is also presented in the Programme Specifications document. The evaluation questions are set to measure the attainment of the COs. In either component (CE or PEE) or subcomponent of CE (SC1, SC2, SC3 or SC4), COs are assessed as illustrated in the following Table:

Focus of COs on each Component or Subcomponent of Evaluation				
Subcomponent ►	Component 1: CE			
	Theory		Practical/Clinical	
Subcomponent Type ►	SC1 - Written assessment	SC2 - Assignment	SC3 - Clinical Assessment and Viva Voce I	SC4 – Clinical Assessment and Viva Voce II
Maximum Marks ►	100	100	100	100
CO-1	x	x	x	x
CO-2	x	x	x	x
CO -3	x	x	x	x
CO -4		x	x	x
CO -5	x	x	x	x
CO -6			x	x
The details of SC1, SC2, SC3 or SC4 are presented in the Programme Specifications Document.				

The Course Leader assigned to the course, in consultation with the Head of the Department, shall provide the focus of COs in each component of assessment in the above template at the beginning of the year. Course reassessment policies are presented in the Academic Regulations document.

8. Achieving COs

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods:

S. No	Curriculum and Capabilities Skills	How imparted during the Course
1.	Knowledge	Classroom lectures
2.	Understanding	Classroom lectures, Self-study
3.	Critical Skills	Assignment
4.	Analytical Skills	Assignment
5.	Problem Solving Skills	Assignment, Examination, Practical/Clinical work
6.	Practical Skills	Assignment, Practical/Clinical work
7.	Group Work	Group Project, IDM
8.	Self-Learning	Self-study

VA

RUK

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025

26

Programme Structure and Course Details of MDS in Periodontology 2025

9.	Written Communication Skills	Assignment, Examination
10.	Verbal Communication Skills	Patient interaction, Viva - Voce
11.	Presentation Skills	Seminar, JC, IDM, Conference
12.	Behavioral Skills	Chair side Patient management, Peer Interaction
13.	Information Management	ICT, Case Records, EHR
14.	Personal Management	Record Maintenance
15.	Leadership Skills	Group Projects, Workshops, Seminars etc.

9. Course resources

a. Essential Reading

1. Carranza, F. A., Newman, M. G., Takei, H. H., & Klokkevold, P. R. (2017). 13th ed Carranza's Clinical Periodontology. St. Louis, Mo, Saunders Elsevier.
2. Lindhe, J., Karring, T., & Lang, N. P. (2003). Clinical Periodontology and Implant Dentistry. Oxford, UK, Blackwell
3. Cohen, E. (2006) Atlas of Cosmetic and Reconstructive Periodontal Surgery. 3rd ed. Hamilton: BC Decker Inc.

b. Recommended Reading

1. Sato, N. (2000). Periodontal surgery: A Clinical Atlas. Chicago, Quintessence Pub. Co
2. Dibart, Practical advanced periodontal surgery, Wiley-Blackwell publishers
3. Michael Sonick, Debby Hwang, (2012), Implant Site Development. Wiley-Blackwell
4. Daniel Buser, Christer Dahlin, Robert K. Schenk, (1994), Guided Bone Regeneration in Implant Dentistry by Quintessence Books.
5. Boyne PJ: History of maxillary sinus grafting- The Sinus Bone Graft, 2nd ed.
6. Carl E. Misch, (2009), Contemporary Implant Dentistry.
7. Jacques Malet, Francis Mora, Philippe, (2012), Bouchard Implant Dentistry at a Glance. Wiley-Blackwell publishers
8. Kumar Vipin (2013), Peri-Implantitis, Lambert Academic Publishing
9. Schwarz, Frank and Becker, Jürgen, (2012), Peri-implant Infection: Etiology, Diagnosis and Treatment, Quintessence publishing, 1st edition
10. Walter B. Hall, (2003), Critical Decisions in Periodontology, 4 edition, Volume 1.
11. Gerard Byrne, (2014), Fundamentals of Implant Dentistry. Wiley-Blackwell publishers
12. Stuart Froum, (2010) Dental Implant Complications: Etiology, Prevention, and Treatment, Wiley-Blackwell publishers.
13. Francesco Chiappelli, Xenia Maria Caldeira Brant (2009), Evidence-Based Practice: Toward Optimizing Clinical Outcomes, Springer Science & Business Media.
14. Sanjeev Rastogi, Francesco Chiappelli (2008), Evidence-Based Practice in complementary and Alternative Medicine.
15. Cohen, E. S. (2007). Atlas of Cosmetic and Reconstructive Periodontal Surgery. Hamilton, BC Decker.
16. Kieser, J. B. (1990). Periodontology: A Practical Approach. London, Wright.
17. Nevins, M., & Mellonig, J. T. (1998). Periodontal Therapy: Clinical Approaches and Evidence of Success. Chicago, Quintessence Pub. Co.

Registrar

M. S. Ramaiah University of Applied Sciences
Bangalore - 560 054



Programme Structure and Course Details of MDS in Periodontology 2025

18. Serio, F. G., & Hawley, C. E. (2009). Manual of Clinical Periodontology: A Reference Manual for Diagnosis & Treatment. Hudson, Ohio, Lexi-Comp.
19. Bartolucci, E. G. (2001). Periodontology: Text-Atlas. Milan, Italy, RC Libri
20. Rajendran, R., Sivapathasundharam, B., & Shafer, W. G. (2012). Shafer's textbook of Oral Pathology.
21. J., Goldman, H. M., Cohen, D. W., & Goldman, H. M. (1990). Contemporary Periodontology. St. Louis, Mosby.
22. Langlais, R. P., Miller, C. S., & Nield-Gehrig, J. S. (2009). Color Atlas of Common Oral Diseases.

c. Journals

1. Periodontology 2000
2. Journal of periodontology
3. J Clinical Periodontology
4. American Academy of Periodontology Guidelines for periodontal therapy
5. Brazilian Dental Journal
6. J Prosthetic Dentistry
7. Journal of Periodontal & Implant Science
8. Clinical Implant Dentistry and Related Research.
9. Journal of Periodontology & Implant Dentistry.
10. Journal of Periodontal Research.
11. Periodontology 2000

d. Websites

1. <http://www.joponline.org/>
2. <http://www.ncbi.nlm.nih.gov/nlmcatalog/0425123>
3. <http://www.jisponline.com/>
4. <http://jdr.sagepub.com/>
5. <http://www.ijdr.in/>
6. <http://www.jcdr.in/>

Rm

Dean - Academic
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

VA

Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025



Module Specifications

Module Title	Clinical Photography
Module Code	MF501A
Module Type	Faculty Common Module
Department	Orthodontics and Dentofacial Orthopedics
Faculty	Dental Sciences

1. Module Summary

The aim of this module is to promote the use of digital photography in dental practices, and to give the necessary information and techniques to achieve good quality and consistent results. This module will cover all aspects of the use of digital photography in dental practice and will be taken through photography from the basics to choosing correct equipment, setting up equipment to optimum settings, techniques for consistent imaging and the safe storage of images.

The student will be able to gain skills and experience of Clinical Photography through introduction to the range of services provided in the specialism and the interaction with patients and patient-centred practice. On completion of this module the student will be able to perform some routine standardized representational photography of patients.

2. Module Size and Credits:

Number of Credits	1
Credit Structure (Lecture: Tutorial: Practical)	0:0:30
Total Hours of Interaction	30
Number of Weeks in a Term	26
Department Responsible	Orthodontics and Dentofacial Orthopedics
Total Module Marks	20
Pass Criterion	As per the Academic Regulations
Attendance Requirement	As per the Academic Regulations

3. Module Outcomes (MOs)

After the successful completion of this Module, the student will be able to:

MO-1. Describe the basic parts and functions of the camera, Principles behind the working of a camera, types of camera and components of a SLR camera.

MO-2. Demonstrate how to use a DSLR.

MO-3. Perform the skills of taking both intraoral and extraoral photographs of the module.

4. Module Contents

Theory

1. Introduction: why take photography in dentistry, why go Digital
2. Basic terms: Resolution, focal depth, shutter speed, macro function/ lens
3. Camera basics: Types of cameras, parts of camera, working mechanism, suggested cameras

Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Programme Structure and Course Details of MDS in Periodontology 2025

for dental photography, standardization of photography, components of a SLR camera

4. Photographic set up: background, lighting, flash, room specifications
5. Clinical requirements for photographic records: Digital camera setup/ring flash/macro lens, special cheek retractors, dental mirrors
6. Clinical photography: extraoral and intraoral photography, helpful hints
7. Post processing your digital images: Downloading to the computer, editing of photographs, saving the images

Practical Work

1. Demonstration of the parts of the camera
2. Choosing the settings for photography
3. Extraoral and intraoral profiling of the patient

5.Module Map (MO-PO-PSO Map)

MOs	Programme Outcomes (POs)						Programme Specific Outcomes (PSOs)			
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PSO-1	PSO-2	PSO-3	PSO-4
MO-1	3	3					2	2		
MO-2	3			3			3	3		
MO-3			3		3	3		3		3
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution										

6.Module Teaching and Learning Methods

Teaching and Learning Methods	Duration in Hours
Face to Face Lectures	6
Demonstration using Physical Models/Systems	7
Assessment and practical project	2
Total Duration in Hours	15

7.Module Assessment and Reassessment

The details of the components and subcomponents of Module assessment are presented in the Programme Specifications document pertaining to the MDS (respective specialty) Programme. The procedure to determine the final Module marks is also presented in the Programme Specifications document. The evaluation questions are set to measure the attainment of the MOs. In CE component or subcomponent of CE (SC1, SC2), MOs are assessed as illustrated in the following Table.

PVK
 Date: _____
 M.S. Ramaiah University of Applied Sciences
 Bangalore - 560 054

AK
 Registrar
 M.S. Ramaiah University of Applied Sciences
 Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025



Focus of MOs on each Component or Subcomponent of Evaluation			
Component 1: CE			
Subcomponent ►	Theory		
Subcomponent Type ►	SC1 - Assessment	SC2 - Assignment	
Maximum Marks ►	10	10	
MO-1	x	x	
MO-2	x	x	
MO-2	x	x	

The Module Leader assigned to the Module, in consultation with the Head of the Department, shall provide the focus of MOs in each component of assessment in the above template at the beginning of the year. Module reassessment policies are presented in the Academic Regulations document.

8. Achieving MOs

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods:

S. No	Curriculum and Capabilities Skills	How imparted during the Module
1.	Knowledge	Classroom lectures
2.	Understanding	Classroom lectures, Self-study
3.	Critical Skills	Assignment
4.	Analytical Skills	Assignment
5.	Problem Solving Skills	Assignment, Examination
6.	Practical Skills	Assignment
7.	Group Work	--
8.	Self-Learning	Self-study
9.	Written Communication Skills	Assignment, Examination
10.	Verbal Communication Skills	--
11.	Presentation Skills	--
12.	Behavioral Skills	--
13.	Information Management	Assignment
14.	Personal Management	--
15.	Leadership Skills	--

9. Module Resources

a. Essential Reading

1. Graber, Vanarsdall. Orthodontics Current Principles Techniques; 4th Ed
2. Matrishva B. Vyas. Clinical photography in dentistry. Jaypee publication.
3. Wolfgang Bengal. Mastering Digital Dental Photography. Quintessence 2006.
4. Shadi S. Samawi. A Short Guide to Clinical Digital Photography in Orthodontics
5. Eduardo C. Digital Dental Photography: A Clinician's Guide. Wiley-Blackwell. 2010.
6. Ahmad, Irfan . Digital and Conventional Dental Photography - A Practical Clinical Manual. Quintessence Publishing Company.
7. Gábor Matyasi. Interactive Dental Photography. Truewhy saloon.
8. Warren Rosenberg. How to Master Digital Dental Photography
9. Eliakim Mizrahi, Taylor & Francis Group. Orthodontic pearls: A selection of practical tips and clinical expertise. 2004

Programme Structure and Course Details of MDS in Periodontology 2025

Module Title	Basic and Advanced Life Support
Module Code	MF502A
Module Type	Faculty Common Module
Department	Oral and Maxillofacial Surgery
Faculty	Dental Sciences

1. Module Summary

The Basic Life Support Program aims to educate health care work force to provide emergency life support, cardiopulmonary resuscitation and the use of automatic external defibrillator in adults, children and infants as applicable. The student also learns the basics of airway management, relief of choking, use of adjutant for rescue breathing for adult, child and infants.

2. Module Size and Credits:

Number of Credits	1
Credit Structure (Lecture: Tutorial: Practical)	0:0:30
Total Hours of Interaction	30
Number of Weeks in a Term	26
Department Responsible	Oral and Maxillofacial Surgery
Total Module Marks	20
Pass Criterion	As per the Academic Regulations
Attendance Requirement	As per the Academic Regulations

3. Module Outcomes (MOs)

After the successful completion of this Module, the student will be able to:

- MO-1.** Describe and demonstrate effective cardio pulmonary resuscitation with automatic External Defibrillator use for adults and children with 1 rescuer and 2 rescuers.
- MO-2.** Describe and demonstrate effective cardio pulmonary resuscitation for infants with 1 rescuer and 2 rescuers.
- MO-3.** Differentiate between adult, child and infant rescue techniques.
- MO-4.** Demonstrate rescue breathing for adult, child and infant
- MO-5.** Demonstrate bag mask technique for adult, child and infant
- MO-6.** Demonstrate relief of choking for adult, child and infant

4. Module Contents

Unit 1: Cardio pulmonary resuscitation with automatic External Defibrillator use for adults with 1 and 2 rescuer Signs and symptoms, Steps of CPR and demonstration, Steps of AED use and demonstration

Unit 2: Cardio pulmonary resuscitation with automatic External Defibrillator use for children with 1 and 2 rescuers Signs and symptoms, Steps of CPR with 1 rescuer, Steps of CPR with 2 rescuer, Steps of CPR and AED demonstration with 2 rescuers

Unit 3: Differences between adult, child and infant techniques, Rescue breathing for adults, Rescue breathing for infants and children Signs and symptoms, causes, methods, Bag mask technique for Adults, children and infants Rationale and method of use Demonstration, Relief of choking for adults, children and infants Signs and symptoms, causes Demonstration and Methods of rescue.

✓

Ruh

Dental Sciences
M.S. Ramaiah University of Applied Sciences
Approved by the Academic Council at its 34th meeting held on 8th March 2025
Bangalore - 560 054

Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

32

5. Module Map (MO-PO-PSO Map)

MOs	Programme Outcomes (POs)						Programme Specific Outcomes (PSOs)			
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PSO-1	PSO-2	PSO-3	PSO-4
MO-1	3	3					2	2		
MO-2	3			3			3	3		
MO-3			3		3	3		3		3
MO-4	3	3			3		2	2		
MO-5					3			2		
MO-6					3				2	
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution										

6. Module Teaching and Learning Methods

Teaching and Learning Methods	Duration in Hours
Face to face lectures	4
Advanced Learning Centre	24
Term Tests, Laboratory Examination/Written Examination, Presentations	2
Total Duration in Hours incl assessment	30

7. Module Assessment and Reassessment

The details of the components and subcomponents of Module assessment are presented in the Programme Specifications document pertaining to the MDS (respective specialty) Programme. The procedure to determine the final Module marks is also presented in the Programme Specifications document. The evaluation questions are set to measure the attainment of the MOs. In CE component or subcomponent of CE (SC1, SC2), MOs are assessed as illustrated in the following Table.

Focus of MOs on each Component or Subcomponent of Evaluation			
Subcomponent	Component 1: CE		
	Theory		
Subcomponent Type	SC1 - Assessment	SC2 - Assignment	
Maximum Marks	10	10	
MO-1	x	x	
MO-2	x	x	
MO-3	x	x	
MO-4	x	x	
MO-5	x	x	
MO-6	x	x	

The Module Leader assigned to the Module, in consultation with the Head of the Department, shall provide the focus of MOs in each component of assessment in the above template at the beginning of the year. Module reassessment policies are presented in the Academic Regulations document.

Handwritten signature

Handwritten signature

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

33
Handwritten signature

8. Achieving MOs

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods:

S. No	Curriculum and Capabilities Skills	How imparted during the Module
1.	Knowledge	Classroom lectures
2.	Understanding	Classroom lectures, Self-study
3.	Critical Skills	Assignment
4.	Analytical Skills	Assignment
5.	Problem Solving Skills	Assignment, Examination
6.	Practical Skills	Assignment
7.	Group Work	--
8.	Self-Learning	Self-study
9.	Written Communication Skills	Assignment, Examination
10.	Verbal Communication Skills	--
11.	Presentation Skills	--
12.	Behavioral Skills	--
13.	Information Management	Assignment
14.	Personal Management	--
15.	Leadership Skills	--

9. Module Resources

Essential Reading

1. Emergency Response Manual

Rur

AK

Doen - Academic
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025

34

Programme Structure and Course Details of MDS in Periodontology 2025

Module Title	Personality Development and Soft Skills
Module Code	MF503A
Module Type	Faculty Common Module
Department	Directorate of Transferable Skills and Leadership Development
Faculty	Dental Sciences

1. Module Summary

This module aims to help the student understand the nuances of interpersonal skills and orients them to handle work situations in a professional manner.

2. Module Size and Credits:

Number of Credits	1
Credit Structure (Lecture: Tutorial: Practical)	0:0:30
Total Hours of Interaction	30
Number of Weeks in a Term	26
Department Responsible	Directorate of Transferable Skills and Leadership Development
Total Module Marks	20
Pass Criterion	As per the Academic Regulations
Attendance Requirement	As per the Academic Regulations

3. Module Outcomes (MOs)

After the successful completion of this Module, the student will be able to:

MO-1. Explain the concept of interpersonal effectiveness

MO-2. Identify the nuances of working in teams, conflict handling, and time management

MO-3. Apply the principles of interpersonal communication towards professional betterment

MO-4. Apply time management tools for optimal usage of time

4. Module Contents

Unit 1: Communication Skills for Interpersonal Effectiveness: Explanation of interpersonal effectiveness and its importance, working in teams, Understanding self – Johari Window, Conflict handling at workplace

Unit 2: Time Management: The concept of time management and self-management, time management matrix, time management tools

5. Module Map (MO-PO-PSO Map)

MOs	Programme Outcomes (POs)						Programme Specific Outcomes (PSOs)			
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PSO-1	PSO-2	PSO-3	PSO-4
MO-1	3	3					2	2		
MO-2	3						3	3		
MO-3			3		3	3		3		3
MO-4	3	2			3		2	2		

3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution

Perk

VH

6. Module Teaching and Learning Methods

Teaching and Learning Methods	Duration in Hours
Face to Face Lectures	10
Group discussions	4
Assessment	1
Total Duration in hours including assessment	15

7. Module Assessment and Reassessment

The details of the components and subcomponents of Module assessment are presented in the Programme Specifications document pertaining to the MDS (respective specialty) Programme. The procedure to determine the final Module marks is also presented in the Programme Specifications document. The evaluation questions are set to measure the attainment of the MOs. In CE component or subcomponent of CE (SC1, SC2), MOs are assessed as illustrated in the following Table.

Focus of MOs on each Component or Subcomponent of Evaluation		
	Component 1: CE	
Subcomponent ►	Theory	
Subcomponent Type ►	SC1 - Assessment	SC2 - Assignment
Maximum Marks ►	10	10
MO-1	x	x
MO-2	x	x
MO-3	x	x
MO-4	x	x

The Module Leader assigned to the Module, in consultation with the Head of the Department, shall provide the focus of MOs in each component of assessment in the above template at the beginning of the year. Module reassessment policies are presented in the Academic Regulations document.

8. Achieving MOs

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods:

S. No	Curriculum and Capabilities Skills	How imparted during the Module
1.	Knowledge	Classroom lectures
2.	Understanding	Classroom lectures, Self-study
3.	Critical Skills	Assignment
4.	Analytical Skills	Assignment
5.	Problem Solving Skills	Assignment, Examination
6.	Practical Skills	Assignment
7.	Group Work	--
8.	Self-Learning	Self-study
9.	Written Communication Skills	Assignment, Examination
10.	Verbal Communication Skills	--
11.	Presentation Skills	--
12.	Behavioral Skills	--

VA

Registrar

M.S. Ramalah University of Applied Sciences
Bangalore - 560 054

Pur

Approved by the Academic Council at its 34th meeting held on 8th March 2025

M.S. Ramalah University of Applied Sciences
Bangalore - 560 054

Programme Structure and Course Details of MDS in Periodontology 2025

13.	Information Management	Assignment
14.	Personal Management	--
15.	Leadership Skills	--

9. Module Resources

Essential Reading

Modules notes and ppt


Dean - Academic
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054


Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025



Programme Structure and Course Details of MDS in Periodontology 2025

Module Title	Law for Dental Professionals
Module Code	MF501A
Module Type	Faculty Common Module
Department	School of Law
Faculty	Dental Sciences

1. Module Summary

This Course creates awareness regarding ethical and professional behaviour in both clinical and societal setups while keeping in mind the legal aspects of their behaviour. The students are taught to identify various situations that may present an ethical dilemma in everyday clinical life and act in a professional manner. The students are also trained to understand the legal system in India and its functioning especially in relation to medicolegal situations.

2. Module Size and Credits:

Number of Credits	1
Credit Structure (Lecture: Tutorial: Practical)	3:0:1
Total Hours of Interaction	15
Number of Weeks in a term	20
Department Responsible	School of Law
Total Course Marks	100
Pass Criterion	As per the Academic Regulations
Attendance Requirement	As per the Academic Regulations

3. Module Outcomes (MOs)

After the successful completion of this course, the student will be able to:

MO-1. Describe the structure and functioning of legal system of India

MO-2. Differentiate between various laws relevant to dentistry

MO-3. Identify clinical situations that pose ethical dilemma to be resolved with sound ethical principles

MO-4. Apply principles of professionalism in the practice of dentistry

MO-5. Communicate effectively with patients, colleagues and public to instill a positive dental attitude

MO-6. Prepare plan of action in case of litigation against the doctor

4. Module Contents

1	Introduction to Constitution of India		
2	Laws relevant to dentistry	i.	Civil, criminal laws and code of Procedure
		ii.	Laws relevant to consent
		iii.	Laws relevant to care
		iv.	Laws relevant to confidentiality
		v.	Consumer protection act
3	Ethics and code of conduct in dentistry	i	In clinical scenario
		ii	In research
4	Professionalism in dentistry	i	Concept and principles of professionalism
5	Communicating effectively		

Puk

AK

Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025

5. Module Map (MO-PO-PSO Map)

MO's	Programme Outcomes (POs)						Programme Specific Outcomes (PSOs)			
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PSO-1	PSO-2	PSO-3	PSO-4
MO-1						1				1
MO-2						1				1
MO-3					2	3				3
MO-4						3				3
MO-5				2	2	3				3
MO-6					2	2				2

3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution

6. Module Teaching and Learning Methods

Teaching and Learning Methods	Duration in hours	Total Duration in Hours
Face to Face Lectures		10
Demonstrations		00
1. Demonstration using Videos	00	
2. Demonstration using Physical Models /Patients	00	00
Practical Work		
Pre-Clinical laboratories	00	
Clinical Area – FDS	00	
Workplace based assessment methods	00	
Hospital Setup – MSRH	00	
Field work/dental camp	00	
Outreach centres	00	
Advanced Learning Centre	00	
Projects	00	
Innovative methods – DOPS, mini CEX, OSCE/OSPE	00	
Others		4
1. Case Study Presentation	04	
2. Guest Lecture	00	
3. Industry / Field Visit	00	
4. Brain Storming Sessions	00	
5. Group Discussions	05	
6. Discussing Possible Innovations	00	
Term Tests, Laboratory Examination/Written Examination, Presentations		1
Total Duration in Hours		15

7. Module Assessment and Reassessment

The details of the components and subcomponents of Module assessment are presented in the Programme Specifications document pertaining to the MDS (respective specialty) Programme. The procedure to determine the final Module marks is also presented in the Programme Specifications document. The evaluation questions are set to measure the attainment of the MOs. In CE component or subcomponent of CE (SC1, SC2), MOs are assessed as illustrated in the following Table.

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Programme Structure and Course Details of MDS in Periodontology 2025

Focus of MOs on each Component or Subcomponent of Evaluation			
		Component 1: CE	
Subcomponent ►	Theory		
Subcomponent Type ►	SC1 - Assessment	SC2 – Assignment	
Maximum Marks ►	10	10	
MO-1	x	x	
MO-2	x	x	
MO-3	x	x	
MO-4	x	x	
MO-5	x	x	
MO-6	x	x	

The Module Leader assigned to the course, in consultation with the Head of the Department, shall provide the focus of MOs in each component of assessment in the above template at the beginning of the year. Module reassessment policies are presented in the Academic Regulations document.

8. Achieving MOs

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods:

S. No	Curriculum and Capabilities Skills	How imparted during the course
1.	Knowledge	Classroom lectures
2.	Understanding	Classroom lectures, Self-study
3.	Critical Skills	Assignment
4.	Analytical Skills	Assignment
5.	Problem Solving Skills	Assignment, Examination
6.	Practical Skills	Assignment
7.	Group Work	--
8.	Self-Learning	Self-study
9.	Written Communication Skills	Assignment, Examination
10.	Verbal Communication Skills	--
11.	Presentation Skills	--
12.	Behavioral Skills	--
13.	Information Management	Assignment
14.	Personal Management	--
15.	Leadership Skills	--

9. Module Resources

b. Essential Reading

1. Module notes
2. Paul G. Medical Law for the Dental Surgeons. 1st Ed., Jaypee Publishers.

RUK

Deen - Academics

M.S. Ramaiah University of Applied Sciences

Approved by the Academic Council at its 34th meeting held on 8th March 2025

VA

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054



Programme Structure and Course Details of MDS in Periodontology 2025

Module Title	Teacher Training Module
Module Code	MF505A
Module Type	Elective Module
Faculty	Dental Sciences

1. Module Summary

The aim of this module is to equip students with necessary skills and competencies to deliver pedagogy by making him/her experience teaching. The student is trained to develop notes, plan lesson, use teaching learning methods and media effectively. The student is also trained to develop teaching or training content and session notes on an allotted topic and deliver the same to a group of students. They have to reflect on the student feedback and discuss the corrective measures with the supervisors.

2. Module Size and Credits:

Number of Credits	1
Credit Structure (Lecture: Tutorial: Practical)	0:0:30
Total Hours of Interaction	30
Number of Weeks in a Term	26
Department Responsible	Health Profession Education Unit
Total Module Marks	20
Pass Criterion	As per the Academic Regulations
Attendance Requirement	As per the Academic Regulations

3. Module Outcomes (MOs)

After the successful completion of this Module, the student will be able to:

- MO-1.** Develop teaching notes on the allotted topic
- MO-2.** Deliver lecture to a group of students
- MO-3.** Submit questions for assessment relevant to the allotted topic
- MO-4.** Analyze student feedback to initiate corrective actions.

4. Module Contents

Unit 1: Educational objectives - Cognitive, Psychomotor, Affective

Unit 2: Writing learning outcomes

Unit 3: Teaching learning methods - Large group, small group, individual and domain based, teacher centered and student centered methods

Unit 4: Media - Power point presentations, use of chalk and board, handouts etc.

Unit 5: Tips for effective presentation

Unit 6: Assessment methodology - Different assessment methods, aligning with learning outcomes

[Signature]

Dean Academics
M.S. Ramaiah University of Applied Sciences

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054



Approved by the Academic Council at its 34th meeting held on 8th March 2025

5. Module Map (MO-PO-PSO Map)

MOs	Programme Outcomes (POs)						Programme Specific Outcomes (PSOs)			
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PSO-1	PSO-2	PSO-3	PSO-4
MO-1	3	3					2	2		
MO-2	3			3			3	3		
MO-3			3		3	3		3		3
MO-4		3		3			2		3	
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution										

6. Module Teaching and Learning Methods

Teaching and Learning Methods		Duration in Hours
Theory		20
1. Lectures	10	
2. Symposium/panel discussion		
3. Small Group discussion	5	
4. Team teaching	5	
5. Role Play/Case based discussion		
Self-directed learning		10
1. Assignment		
2. Conferences/ seminars/CDE's	-	
3. Workshops	-	
4. Information Centre	5	
5. Observership		
Term Tests, Laboratory Examination/Written Examination, Presentations	5	
Total Duration in Hours incl. assessment	30	

7. Module Assessment and Reassessment

The details of the components and subcomponents of Module assessment are presented in the Programme Specifications document pertaining to the MDS (respective specialty) Programme. The procedure to determine the final Module marks is also presented in the Programme Specifications document. The evaluation questions are set to measure the attainment of the MOs. In CE component or subcomponent of CE (SC1, SC2), MOs are assessed as illustrated in the following Table.

Focus of MOs on each Component or Subcomponent of Evaluation		
Subcomponent ►	Component 1: CE	
	Theory	
Subcomponent Type ►	SC1 - Assessment	SC2 - Presentation
Maximum Marks ►	10	10
MO-1	X	x
MO-2	X	x
MO-3	X	x
MO-4	X	x

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Programme Structure and Course Details of MDS in Periodontology 2025

The Module Leader assigned to the Module, in consultation with the Head of the Department, shall provide the focus of MOs in each component of assessment in the above template at the beginning of the year.

Module reassessment policies are presented in the Academic Regulations document.

8. Achieving MOs

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods:

S. No	Curriculum and Capabilities Skills	How imparted during the Module
1.	Knowledge	Classroom lectures
2.	Understanding	Classroom lectures, Self-study
3.	Critical Skills	Assignment
4.	Analytical Skills	Assignment
5.	Problem Solving Skills	Assignment, Examination
6.	Practical Skills	Assignment
7.	Group Work	--
8.	Self-Learning	Self-study
9.	Written Communication Skills	Assignment, Examination
10.	Verbal Communication Skills	--
11.	Presentation Skills	--
12.	Behavioral Skills	--
13.	Information Management	Assignment
14.	Personal Management	--
15.	Leadership Skills	--

9. Module Resources

Essential Reading

1. Srinvasa D.K., Ananthakrishnan N, Sethuraman K.R, Santosh Kumar. (eds.) *Medical Education: Principles & Practice, (Revised Edition)* 1995.
2. Ananthakrishnan N, Sethuraman K.R, Santosh Kumar. (eds.) *Medical Education: Principles & Practice , Volume II –Trainers' Manual*, National Teacher Training Centre, Jawaharlal Institute of Medical Education and Research, (JIPMER), Pondicherry
3. Singh T., Gupta P., Singh D.(eds.) *Principles of Medical Education*, Fourth edition IAP National Publication House, Gwalior, JAYPEE Brothers, 2013


Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054


Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Module Title	Research Methodology
Module Code	MR501A
Module Type	Research Module
Department	Public Health Dentistry
Faculty	Dental Sciences

1. Module Summary

This module deals with the principles of research, research methodology and significant phases of research including sampling methodologies and its importance and development and validation of study tools. The students will be taught the significant role of Literature Review in a research cycle and the expectations from good literature review as well as procedure for systematic literature review. The essential aspects of technical communication to develop desirable writing skills for the preparation of research document including research paper as well as the skills for an effective presentation will also be discussed. The module also emphasizes the desirable close knit relation between innovation and concept of out of the box thinking. Students will get an insight into the privilege, honor and the associated responsibilities of a researcher.

2. Module Size and Credits:

Number of Credits	2
Credit Structure (Lecture: Tutorial: Practical)	15:0:30
Total Hours of Interaction	45
Number of Weeks in a Term	1
Department Responsible	Public Health Dentistry
Total Module Marks	100
Pass Criterion	As per the Academic Regulations
Attendance Requirement	As per the Academic Regulations

3. Module Outcomes (MOs)

After the successful completion of this Module, the student will be able to:

- MO-1. Describe the value, scope, relevance and mandatory steps of research as well as principles of effective research
- MO-2. Apply the procedures outlined for systematic literature review
- MO-3. Develop and present well-structured research proposal and research paper invoking clearly outlined principles
- MO-4. Identify and apply the essential skills desirable for an effective technical presentation

4. Module Contents

Unit 1 : Foundations of Research – Definitions of Research, Mandatory Steps in Research, Types of Research, Relevance of Research for Innovation and Technology Development, Effective Research and Self Discipline.

Unit 2 : Out Of the Box Thinking and Systematic approach in Research – Transformation to

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Impossible Thinking, Convergent and Divergent Thinking, Generation, Evaluation and Selection of Ideas.

Unit 3: Literature Review – Importance of Literature Review, Constituents of Good Literature Review, Strategies for Literature Search, Referencing, Paraphrasing, and Summarizing Academic Standards and Ethics Statistical Methods and Data Analysis

Unit 4: Research Proposal – Structure of a Good Research Proposal, Getting Started, Tips for Compilation of Good Research Proposal. Technical Communication - Research Paper for Publication- Significance of Problem Statement and its scope, Formulation of Hypothesis, Adequacy of Methodology, Significance of Presentation and Discussion of Results, Relevance and Importance of references.

Unit 5 : Effective Presentation – Preparation, Templates, Balance between Good Design and Good Content, Planning and Sequencing, PAMPERS (Projection, Articulation, Modulation, Punctuation, Enunciation, Repetition and Speed) rule, PEOPLE (Position & Gestures, Eye Contact, Orientation, Proximation, Looks & Appearance, and Expressions & Emotion) rule, 4P's Rule (Plan, Prepare, Practice and Present), Essentials of Effectiveness, Effective Pausing and Inclusive Answering.

5. Module Map (MO-PO-PSO Map)

MO's	Programme Outcomes (POs)						Programme Specific Outcomes (PSOs)			
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PSO-1	PSO-2	PSO-3	PSO-4
MO-1	3	3					2	2		
MO-2	3			3			3	3		
MO-3			3		3	3		3		3
MO-4	3	3			3		2	2		
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution										

6. Module Teaching and Learning Methods

Teaching and Learning Methods	Duration in Hours
Face to Face Lecture	15
Interaction/tutorial	26
Written Examination, Assignment, Presentations	4
Total Duration in Hours	45

7. Module Assessment and Reassessment

The details of the components and subcomponents of Module assessment are presented in the Programme Specifications document pertaining to the MDS (respective specialty) Programme.

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560025

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Programme Structure and Course Details of MDS in Periodontology 2025

The procedure to determine the final Module marks is also presented in the Programme Specifications document. The evaluation questions are set to measure the attainment of the MOs. In CE component or subcomponent of CE (SC1, SC2), MOs are assessed as illustrated in the following Table.

Focus of MOs on each Component or Subcomponent of Evaluation		
	Component 1: CE	
Subcomponent ►	Theory	
Subcomponent Type ►	SC1 - Written assessment	SC2 - Assignment
Maximum Marks ►	50	50
MO-1	x	x
MO-2	x	x
MO-3	x	x
MO-4	x	x
The details of SC1, SC2, SC3 or SC4 are presented in the Programme Specifications Document.		

The Module Leader assigned to the Module, in consultation with the Head of the Department, shall provide the focus of MOs in each component of assessment in the above template at the beginning of the year. Module reassessment policies are presented in the Academic Regulations document.

8. Achieving MOs

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods:

S. No	Curriculum and Capabilities Skills	How imparted during the Module
1.	Knowledge	Classroom lectures
2.	Understanding	Classroom lectures, Self-study
3.	Critical Skills	Assignment
4.	Analytical Skills	Assignment
5.	Problem Solving Skills	Assignment, Examination
6.	Practical Skills	Assignment
7.	Group Work	--
8.	Self-Learning	Self-study
9.	Written Communication Skills	Assignment, Examination
10.	Verbal Communication Skills	--
11.	Presentation Skills	--
12.	Behavioral Skills	--
13.	Information Management	Assignment
14.	Personal Management	--
15.	Leadership Skills	--

9. Module Resources

Essential Reading

1. Class notes

RL

Dean - Periodontology
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025

46

Programme Structure and Course Details of MDS in Periodontology 2025

2. Booth WC, Colomb and GG Williams. (2005) The craft of Research, Chicago University.
3. William MK and Trochim. (2003) Research methods, 2nd edition, Biztantra Publications
4. Jonathan Grix. (2004) The foundation of Research, Palgrave Study Guides
5. Park's text book of Preventive and Social Medicine by K.Park. 2013, Banarasidas
6. Bhanot Publishers 22nd Edition ISBN-10: 9382219021, ISBN-13: 978-9382219026.
7. Jekel's Epidemiology, Biostatistics, Preventive Medicine, and Public Health by David L.
8. Katz, Joann G.Elmore, Dorothea M.G.Wild, Sean C.Lucan. 2014, Saunders Elsevier publication 4th Edition ISBN-13: 978-1455706587, ISBN-10: 1455706582.
9. Health research methodology: a guide for training in research methods (western pacific education in action series no.5) by WHO, 2001, World Health Organization 2nd edition ISBN-10: 929061157X, ISBN-13: 978-9290611578.
10. Research Methodology: Methods & Techniques Kothari C.R., Gaurav Garg 2013, New Age International Publishers, 3rd edition ISBN-13: 978-8122436235.
11. Introduction to Biostatistics by Mahajan B.K. 2010 7th Edition JPB Publishers ISBN-10: 8184487134, ISBN-13: 978-818448713.
12. Oral health Surveys basic methods by WHO, 2013, 5th edition World Health Organisation ISBN: 978 92 4 154864 9.

Recommended Reading

1. Wisker Gina. (2001) The post graduate research handbook, Palgrave
2. Rogg G and Petre M (2004) The unwritten rules of PhD research, open university



Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054



Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054



Module Title	Short Term Project/ Group Project
Module Code	MR502A
Module Type	Research Module
Department	Respective Department
Faculty	Dental Sciences

1. Module Summary

The aim of the module is that the student group should be able to design a research project either individually or as a group in their areas of specialization with in short period. The students are required to develop a report for assessment. The student is expected to finalize the report in form of a manuscript and submit to the constituted committee. Students can choose a project from the priority areas of research of the Faculty.

2. Module Size and Credits:

Number of Credits	6
Credit Structure (Lecture: Tutorial: Practical)	15:0:30
Total Hours of Interaction	150
Number of Weeks in a Term	1
Department Responsible	Respective Department
Total Module Marks	100
Pass Criterion	As per the Academic Regulations
Attendance Requirement	As per the Academic Regulations

3. Module Outcomes (MOs)

After the successful completion of this Module, the student will be able to:

- MO-1. Work in a team and undertake a project in their area of specialization
- MO-2. Apply the design methods and techniques for executing the project
- MO-3. Apply appropriate methodology while formulating a project

4. Module Contents

Need for undertaking a project, design specifications, design, analysis, design evaluation and presentation

Project Management

Costing, Finance Management, Procurement, Project Development, Testing, Project

Evaluation, Exhibition, Presentation

Team building, Team work, Leadership skills

5. Module Map (MO-PO-PSO Map)

MO's	Programme Outcomes (POs)						Programme Specific Outcomes (PSOs)			
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PSO-1	PSO-2	PSO-3	PSO-4
MO-1	3	3					2	2		
MO-2	3						3	3		
MO-3			3		3	3		3		3

3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution

RH

Dean-Academics

M.S. Ramaiah University of Applied Sciences

Approved by the Academic Council at its 34th meeting held on 8th March 2025

VA

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

6. Module Teaching and Learning Methods

Teaching and Learning Methods		Duration in Hours
Face to Face Lectures	-	60
Others		
1. Guest Lecture	-	
2. Industry/Field Visit		
3. Brain Storming Sessions	10	
4. Group Discussions	40	
5. Discussing Possible Innovations	10	
Report writing, Presentations		90
Total Duration in Hours		150

7. Module Assessment and Reassessment

The details of the components and subcomponents of Module assessment are presented in the Programme Specifications document pertaining to the MDS (respective specialty) Programme. The procedure to determine the final Module marks is also presented in the Programme Specifications document. The evaluation questions are set to measure the attainment of the MOs. In CE component or subcomponent of CE (SC1, SC2), MOs are assessed as illustrated in the following Table.

Focus of MOs on each Component or Subcomponent of Evaluation			
		Component 1: CE	
Subcomponent ►	Theory		
Subcomponent Type ►	SC1 - Presentation	SC2 - Report	
Maximum Marks ►	50	50	
MO-1	x	x	
MO-2	x	x	
MO-3	x	x	
The details of SC1, SC2, SC3 or SC4 are presented in the Programme Specifications Document.			

The Module Leader assigned to the Module, in consultation with the Head of the Department, shall provide the focus of MOs in each component of assessment in the above template at the beginning of the year. Module reassessment policies are presented in the Academic Regulations document.

8.Achieving MOs

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods:

S. No	Curriculum and Capabilities Skills	How imparted during the Module
1.	Knowledge	Classroom lectures
2.	Understanding	Classroom lectures, Self-study
3.	Critical Skills	Assignment
4.	Analytical Skills	Assignment
5.	Problem Solving Skills	Assignment, Examination
6.	Practical Skills	Assignment
7.	Group Work	--
8.	Self-Learning	Self-study
9.	Written Communication Skills	Assignment, Examination
10.	Verbal Communication Skills	--
11.	Presentation Skills	--
12.	Behavioral Skills	--
13.	Information Management	Assignment
14.	Personal Management	--
15.	Leadership Skills	--

9.Module Resources

Essential Reading

Class notes

Relevant books, articles and electronic resources



Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054



Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025



Programme Structure and Course Details of MDS in Periodontology 2025

Module Title	Library Dissertation
Module Code	MR503A
Module Type	Research Module
Department	Respective Department
Faculty	Dental Sciences

1. Module Summary

This module deals with survey, review and critical appraisal of 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

2. Module Size and Credits:

Number of Credits	4
Credit Structure (Lecture: Tutorial: Practical)	15:0:30
Total Hours of Interaction	120
Number of Weeks in a Term	26
Department Responsible	Respective Department
Total Module Marks	100
Pass Criterion	As per the Academic Regulations
Attendance Requirement	As per the Academic Regulations

3. Module Outcomes (MOs)

After the successful completion of this Module, the student will be able to:

- MO-1. Differentiate types of scientific literature, search strategies and research designs
- MO-2. Select topic relevant to the field of study
- MO-3. Select literature utilising different search engines
- MO-4. Review the selected literature and compile it
- MO-5. Formulate a research question based on the outcome of literature review
- MO-6. Prepare scientific manuscript for publication

4. Module Contents

Core specialty content

5. Module Map (MO-PO-PSO Map)

MO's	Programme Outcomes (POs)						Programme Specific Outcomes (PSOs)			
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PSO-1	PSO-2	PSO-3	PSO-4
MO-1	3	3					2	2		
MO-2	3						3	3		
MO-3			3		3	3		3		3
MO-4	3	3			3		2	2		
MO-5		2			3			2		2
MO-6			2						2	
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution										

6. Module Teaching and Learning Methods

Teaching and Learning Methods	Duration in Hours
Interaction/tutorial/self-directed learning	114
Term Tests, Laboratory Examination/Written Examination, Presentations	6
Total Duration in Hours	120

7. Module Assessment and Reassessment

The details of the components and subcomponents of Module assessment are presented in the Programme Specifications document pertaining to the MDS (respective specialty) Programme. The procedure to determine the final Module marks is also presented in the Programme Specifications document. The evaluation questions are set to measure the attainment of the MOs. In CE component or subcomponent of CE (SC1, SC2), MOs are assessed as illustrated in the following Table.

Focus of MOs on each Component or Subcomponent of Evaluation			
	Component 1: CE		
Subcomponent ►	Theory		
Subcomponent Type ►	SC1 - Presentation	SC2 - Report	
Maximum Marks ►	50	50	
MO-1	x	x	
MO-2	x	x	
MO-3	x	x	
MO-4	x	x	
MO-5	x	x	
MO-6	x	x	

The Module Leader assigned to the Module, in consultation with the Head of the Department, shall provide the focus of MOs in each component of assessment in the above template at the beginning of the year. Module reassessment policies are presented in the Academic Regulations document.

8. Achieving MOs

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods:

S. No	Curriculum and Capabilities Skills	How imparted during the Module
1.	Knowledge	Classroom lectures
2.	Understanding	Classroom lectures, Self-study
3.	Critical Skills	Assignment
4.	Analytical Skills	Assignment
5.	Problem Solving Skills	Assignment, Examination
6.	Practical Skills	Assignment

Handwritten signature

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Handwritten signature

Dean - Academics

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Bangalore - 560 054



Programme Structure and Course Details of MDS in Periodontology 2025

7.	Group Work	--
8.	Self-Learning	Self-study
9.	Written Communication Skills	Assignment, Examination
10.	Verbal Communication Skills	--
11.	Presentation Skills	--
12.	Behavioral Skills	--
13.	Information Management	Assignment
14.	Personal Management	--
15.	Leadership Skills	--

9. Module Resources

Essential Reading

Relevant books, articles and electronic resources



Dean - Academics
M.S. Ramalah University of Applied Sciences
Bangalore - 560 054



Registrar
M.S. Ramalah University of Applied Sciences
Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025



Programme Structure and Course Details of MDS in Periodontology 2025

Module Title	Dissertation
Module Code	MR504A
Module Type	Research Module
Department	Respective Department
Faculty	Dental Sciences

1. Module Summary

This module is intended to give an insight to the students on application of principles of research methodology, preparation of research project proposal, research project management, execution of research project and effective technical communication and presentation. It also emphasizes the need and the relevance of a structured approach to identify a research topic and undertake research. This module provides an opportunity for students to apply theories and techniques learnt during programme work. It involves in-depth work in the chosen area of study.

2. Module Size and Credits:

Number of Credits	18
Credit Structure (Lecture: Tutorial: Practical)	15:0:30
Total Hours of Interaction	360
Number of Weeks in a Term	52
Department Responsible	Respective Department
Total Module Marks	100
Pass Criterion	As per the Academic Regulations
Attendance Requirement	As per the Academic Regulations

3. Module Outcomes (MOs)

After the successful completion of this Module, the student will be able to:

- MO-1.** Critically review scholarly literature collected from various sources for the dissertation purpose and formulate a research problem
- MO-2.** Prepare and present a research proposal
- MO-3.** Conduct research to achieve research objectives
- MO-4.** Propose new ideas/methodologies or procedures for further improvement of the research undertaken
- MO-5.** Create research document and write research papers for publications
- MO-6.** Defend the research findings in front of scholarly audience

4. Module Contents

- Research Methodology
- Information search, retrieval and review
- Project definition and project planning
- Use of conceptual models and frameworks
- Problem solving and Evaluation

Per

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 075

Dean-Dental Sciences
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 075

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Programme Structure and Course Details of MDS in Periodontology 2025

6. Interpretations and drawing conclusions
7. Proposing ideas or methods for further work
8. Thesis writing
9. Oral presentation
10. Authoring Research paper

5. Module Map (MO-PO-PSO Map)

MO's	Programme Outcomes (POs)						Programme Specific Outcomes (PSOs)			
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PSO-1	PSO-2	PSO-3	PSO-4
MO-1	3	3					2	2		
MO-2	3						3	3		
MO-3			3		3	3		3		3
MO-4	3	3			3		2	2		3
MO-5		3				3		3		
MO-6			3						3	2

3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution

6. Module Teaching and Learning Methods

Teaching and Learning Methods		Duration in Hours
Information search, retrieval and review, Project definition and project planning	Reading Journal papers , books and other relevant materials and problem formulation	80
Use of conceptual models and Frameworks	Individual work with supervisors guidance	40
Problem solving and Evaluation	Individual work with supervisors guidance	60
Interpretations and drawing Conclusions	Individual work with supervisors guidance	40
Proposing ideas or methods for further work	Individual work with supervisors guidance	20
Presentation, Thesis/Report Writing and Viva Voce, Authoring Research paper	Presentation and Viva voce	110
	Thesis/Report writing, Authoring research paper	
Tests/Examinations/presentations		10
Total Duration in Hours		360

7. Module Assessment and Reassessment

The details of the components and subcomponents of Module assessment are presented in the Programme Specifications document pertaining to the MDS (respective specialty) Programme.

The procedure to determine the final Module marks is also presented in the Programme

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Programme Structure and Course Details of MDS in Periodontology 2025

Specifications document. The evaluation questions are set to measure the attainment of the MOs. In CE component or subcomponent of CE (SC1, SC2), MOs are assessed as illustrated in the following Table.

Focus of MOs on each Component or Subcomponent of Evaluation			
	Component 1: CE		
Subcomponent ►	Theory		
Subcomponent Type ►	SC1 - Presentation	SC2 - Report	
Maximum Marks ►	50	50	
MO-1	x	x	
MO-2	x	x	
MO-3	x	x	
MO-4	X	X	
MO-5	x	x	
MO-6	x	x	
The details of SC1, SC2, SC3 or SC4 are presented in the Programme Specifications Document.			

The Module Leader assigned to the Module, in consultation with the Head of the Department, shall provide the focus of MOs in each component of assessment in the above template at the beginning of the year. Module reassessment policies are presented in the Academic Regulations document.

8. Achieving MOs

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods:

S. No	Curriculum and Capabilities Skills	How imparted during the Module
1.	Knowledge	Classroom lectures
2.	Understanding	Classroom lectures, Self-study
3.	Critical Skills	Assignment
4.	Analytical Skills	Assignment
5.	Problem Solving Skills	Assignment, Examination
6.	Practical Skills	Assignment
7.	Group Work	--
8.	Self-Learning	Self-study
9.	Written Communication Skills	Assignment, Examination
10.	Verbal Communication Skills	--
11.	Presentation Skills	--
12.	Behavioral Skills	--
13.	Information Management	Assignment
14.	Personal Management	--
15.	Leadership Skills	--

9. Module Resources

Essential Reading

Relevant books, articles and electronic resources

Signature

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054



Programme Structure and Course Details of MDS in Periodontology 2025

Module Title	Conference Presentation
Module Code	MR505A
Module Type	Research Module
Department	Respective Department
Faculty	Dental Sciences

1. Module Summary

The aim of this module is to make a student submit and present a research paper in a conference based on his/her research work during his/her programme. The student is required to carry out original research, author a conference paper and present it. The student is also required to submit the paper to a conference approved by the department and make a presentation to the examiners in the faculty.

2. Module Size and Credits:

Number of Credits	1
Credit Structure (Lecture: Tutorial: Practical)	0:0:30
Total Hours of Interaction	30
Number of Weeks in a Term	26
Department Responsible	Respective Department
Total Module Marks	100
Pass Criterion	As per the Academic Regulations
Attendance Requirement	As per the Academic Regulations

3. Module Outcomes (MOs)

After the successful completion of this Module, the student will be able to:

- MO-1.** Choose a contemporary topic in his/her area of study for research
- MO-2.** Write a conference paper based on research and present in the conference

4. Module Contents

1. Selection of topic for research
2. Critical review on the chosen topic
3. Collection of relevant data
4. Presentation and Analysis of data
5. Interpretation of data

5. Module Map (MO-PO-PSO Map)

MO's	Programme Outcomes (POs)						Programme Specific Outcomes (PSOs)			
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PSO-1	PSO-2	PSO-3	PSO-4
MO-1	3	3					2	2		
MO-2	3						3	3		

3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution

6. Module Teaching and Learning Methods

Teaching and Learning Methods		Duration in Hours
Conference Publication	Research work	10
	Authoring and Presentation of paper	5
	Presentation preparations	10
Evaluation of Report and Presentations		5
Total Duration in Hours		30

7. Module Assessment and Reassessment

The details of the components and subcomponents of Module assessment are presented in the Programme Specifications document pertaining to the MDS (respective specialty) Programme. The procedure to determine the final Module marks is also presented in the Programme Specifications document. The evaluation questions are set to measure the attainment of the MOs. In CE component or subcomponent of CE (SC1, SC2), MOs are assessed as illustrated in the following Table.

Focus of MOs on each Component or Subcomponent of Evaluation		
	Component 1: CE	
Subcomponent ►	Theory	
Subcomponent Type ►	SC1 - Presentation	SC2 - Report
Maximum Marks ►	50	50
MO-1	x	x
MO-2	x	x
The details of SC1, SC2, SC3 or SC4 are presented in the Programme Specifications Document.		

The Module Leader assigned to the Module, in consultation with the Head of the Department, shall provide the focus of MOs in each component of assessment in the above template at the beginning of the year. Module reassessment policies are presented in the Academic Regulations document.

8. Achieving MOs

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods:

S. No	Curriculum and Capabilities Skills	How imparted during the Module
1.	Knowledge	Classroom lectures
2.	Understanding	Classroom lectures, Self-study
3.	Critical Skills	Assignment

Programme Structure and Course Details of MDS in Periodontology 2025

4.	Analytical Skills	Assignment
5.	Problem Solving Skills	Assignment, Examination
6.	Practical Skills	Assignment
7.	Group Work	--
8.	Self-Learning	Self-study
9.	Written Communication Skills	Assignment, Examination
10.	Verbal Communication Skills	--
11.	Presentation Skills	--
12.	Behavioral Skills	--
13.	Information Management	Assignment
14.	Personal Management	--
15.	Leadership Skills	--

9. Module Resources

Essential Reading

Relevant books, articles and electronic resources



Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054



Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054



Approved by the Academic Council at its 34th meeting held on 8th March 2025

Programme Structure and Course Details of MDS in Periodontology 2025

Module Title	Journal Publication
Module Code	MR506A
Module Type	Research Module
Department	Respective Department
Faculty	Dental Sciences

1. Module Summary

The aim of this module is to make a student submit a research paper to a journal based on his/her research work during the programme. The student is required to carry out original research, author a journal paper for publication. The student is also required to submit the research paper to a peer reviewed, indexed journal approved by the department and make a presentation to the examiners in the faculty

2. Module Size and Credits:

Number of Credits	1
Credit Structure (Lecture: Tutorial: Practical)	0:0:30
Total Hours of Interaction	30
Number of Weeks in a Term	26
Department Responsible	Respective Department
Total Module Marks	100
Pass Criterion	As per the Academic Regulations
Attendance Requirement	As per the Academic Regulations

3. Module Outcomes (MOs)

After the successful completion of this Module, the student will be able to:

- MO-1. Choose a contemporary topic in his/her area of study for research
- MO-2. Write a research paper based on research and publish in a journal

4. Module Contents

1. Selection of topic for research
2. Critical review on the chosen topic
3. Collection of relevant data
4. Presentation and Analysis of data
5. Interpretation of data

5. Module Map (MO-PO-PSO Map)

MO's	Programme Outcomes (POs)						Programme Specific Outcomes (PSOs)			
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PSO-1	PSO-2	PSO-3	PSO-4
MO-1	3	3					2	2		
MO-2	3						3	3		
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution										

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054



6. Module Teaching and Learning Methods

Teaching and Learning Methods		Duration in Hours
Journal Publication	Research work	10
	Authoring and Presentation of paper	10
	Presentation preparations	5
Evaluation of Report and Presentations		5
Total Duration in Hours		30

7. Module Assessment and Reassessment

The details of the components and subcomponents of Module assessment are presented in the Programme Specifications document pertaining to the MDS (respective specialty) Programme. The procedure to determine the final Module marks is also presented in the Programme Specifications document. The evaluation questions are set to measure the attainment of the MOs. In CE component or subcomponent of CE (SC1, SC2), MOs are assessed as illustrated in the following Table.

Focus of MOs on each Component or Subcomponent of Evaluation		
Component 1: CE		
Subcomponent ►	Theory	
Subcomponent Type ►	SC1 - Presentation	SC2 - Report
Maximum Marks ►	50	50
MO-1	x	x
MO-2	x	x
The details of SC1, SC2, SC3 or SC4 are presented in the Programme Specifications Document.		

The Module Leader assigned to the Module, in consultation with the Head of the Department, shall provide the focus of MOs in each component of assessment in the above template at the beginning of the year. Module reassessment policies are presented in the Academic Regulations document.

8. Achieving MOs

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods:

S. No	Curriculum and Capabilities Skills	How imparted during the Module
1.	Knowledge	Classroom lectures
2.	Understanding	Classroom lectures, Self-study
3.	Critical Skills	Assignment
4.	Analytical Skills	Assignment

PR

AK

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Programme Structure and Course Details of MDS in Periodontology 2025

5.	Problem Solving Skills	Assignment, Examination
6.	Practical Skills	Assignment
7.	Group Work	--
8.	Self-Learning	Self-study
9.	Written Communication Skills	Assignment, Examination
10.	Verbal Communication Skills	--
11.	Presentation Skills	--
12.	Behavioral Skills	--
13.	Information Management	Assignment
14.	Personal Management	--
15.	Leadership Skills	--

9. Module Resources

Essential Reading

Relevant books, articles and electronic resources,

Ren

Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore-560 034

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Registrar
M.S. Ramaiah University of Applied Sciences

Programme Structure and Course Details of MDS in Periodontology 2025

Module Title	Training in any other institution in India or Abroad
Module Code	MG501A
Module Type	Elective Module
Faculty	Dental Sciences

1. Module Summary

The aim of this module is to make a student undergo training in an area of his/her interest to develop proficiency within the faculties available in any other institution in India or abroad. The student will choose a topic for training and undergo training in a professional setup. The student should develop a report and make a presentation on his/her training undergone.

2. Module Size and Credits:

Number of Credits	3
Credit Structure (Lecture: Tutorial: Practical)	0:0:90
Total Hours of Interaction	90
Number of Weeks in a Term	26
Department Responsible	Respective Department
Total Module Marks	20
Pass Criterion	As per the Academic Regulations
Attendance Requirement	As per the Academic Regulations

3. Module Outcomes (MOs)

After the successful completion of this Module, the student will be able to:

MO-1. Apply tools and techniques proficiently in the area of the training undergone for efficient execution of the stated objective

MO-2. Make presentation on training obtained

4. Module Contents

Related to training programme

5. Module Map (MO-PO-PSO Map)

MO's	Programme Outcomes (POs)						Programme Specific Outcomes (PSOs)			
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PSO-1	PSO-2	PSO-3	PSO-4
MO-1	3	3					2	2		
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution										

6. Module Teaching and Learning Methods

Teaching and Learning Methods		Duration in Hours
Training	Training	80
	Report writing	
	Presentation preparation	
Evaluation of Report and Presentations		10
Total Duration in Hours		90

7. Module Assessment and Reassessment

Approved by the Academic Council at its 34th meeting held on 8th March 2025

Registrar
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Programme Structure and Course Details of MDS in Periodontology 2025

The details of the components and subcomponents of Module assessment are presented in the Programme Specifications document pertaining to the MDS (respective specialty) Programme. The procedure to determine the final Module marks is also presented in the Programme Specifications document. The evaluation questions are set to measure the attainment of the MOs. In CE component or subcomponent of CE (SC1, SC2), MOs are assessed as illustrated in the following Table.

Focus of MOs on each Component or Subcomponent of Evaluation		
	Component 1: CE	
Subcomponent ►	Theory	
Subcomponent Type ►	SC1 - Assessment	SC2 - Assignment
Maximum Marks ►	10	10
MO-1	X	x

The Module Leader assigned to the Module, in consultation with the Head of the Department, shall provide the focus of MOs in each component of assessment in the above template at the beginning of the year. Module reassessment policies are presented in the Academic Regulations document.

8. Achieving MOs

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods:

S. No	Curriculum and Capabilities Skills	How imparted during the Module
1.	Knowledge	Classroom lectures
2.	Understanding	Classroom lectures, Self-study
3.	Critical Skills	Assignment
4.	Analytical Skills	Assignment
5.	Problem Solving Skills	Assignment, Examination
6.	Practical Skills	Assignment
7.	Group Work	--
8.	Self-Learning	Self-study
9.	Written Communication Skills	Assignment, Examination
10.	Verbal Communication Skills	--
11.	Presentation Skills	--
12.	Behavioral Skills	--
13.	Information Management	Assignment
14.	Personal Management	--
15.	Leadership Skills	--

9. Module Resources

Relevant books, articles and electronic resources


 Dean - Academics
 M.S. Ramaiah University of Applied Sciences
 Bangalore - 560074


 Registrar
 M.S. Ramaiah University of Applied Sciences
 Bangalore - 560074

Programme Structure and Course Details of MDS in Periodontology 2025

Annexure I - MDS in Periodontology
Curriculum Framework and Assessment

S. No.	Course Code	Course Title	Credits	Assessment Marks
I	Programme Specialization Teaching Course			
1	POC501B	Preclinical and Clinical Phase Basics	48	400
2	POC502B	Clinical Phase Intermediate	48	400
3	POC503B	Clinical Phase Advanced	24	400
II	Research Modules			
1	MR501A	Research Methodology	2	40
2	MR502A	Short term project/Group project	6	100
3	MR503A	Library Dissertation	4	60
4	MR504A	Dissertation	10	200
5	MR505A	Conference Presentation	1	20
6	MR506A	Journal Publication	1	20
III	Faculty-Common Modules			
1	MF501A	Clinical Photography	1	20
2	MF502A	Basic and Advanced Life Support	1	20
3	MF503A	Personality Development and Soft Skills	1	20
	MF504A	Law for Dental Professionals	1	20
IV	Elective Modules			
1	MG501A	Training in any other institution in India or Abroad	3	60
2	MF505A	Teacher Training Module	1	20
V	Programme End Examination			
1	a. Part I Programme End Examination b. Part II Programme End Examination		20	700
	Total		180	2500

P.M.

Dean - Academics
M.S. Ramaiah University of Applied Sciences
Bangalore - 560 074

Registrar

M.S. Ramaiah University of Applied Sciences
Bangalore - 560 054

Approved by the Academic Council at its 34th meeting held on 8th March 2025