



**RAMAIAH
UNIVERSITY**
OF APPLIED SCIENCES

M S Ramaiah University of Applied Sciences

Programme Structure and Course Details

Of

Master Dental Surgery

In

Oral Medicine and Radiology

Batch 2022 onwards

M S Ramaiah University of Applied Sciences

Faculty of Dental Sciences



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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

Programme Specifications: MDS in Oral Medicine and Radiology

Faculty	Dental Sciences
Department	Oral Medicine and Radiology
Programme Code	065
Programme Name	MDS in Oral Medicine and Radiology
Dean of the Faculty	Dr. Silju Mathew
Head of the Department	Dr. Rakesh N

1. **Title of the Award:** MDS in Oral Medicine and Radiology
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:** July 2022
7. **Date of Programme Approval by the Academic Council of MSRUAS:** July - 2022
8. **Next Review Date:** July 2025
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**

Although Oral Medicine and Oral Radiology are distinct specialties in many parts of the world, it is a combined specialty in India. Oral Medicine and Maxillofacial Radiology deals with the diagnosis and management of oral disorders and production and interpretation of radiographic images of the oral and maxillofacial region.

Oral cavity is the major portal of entry to the body and is equipped with formidable mechanisms for sensing the environment and defending against various pathogens. It serves as a window to the body because many important systemic disorders manifest here. The oral physician is the first medical person to encounter such disorders. Poor oral health has been linked with various systemic disorders like cardiovascular disorders, malignancies, low birth weight preterm babies, hematological disorders and osteoporosis which have certain oral manifestations. These oral manifestations must be properly diagnosed if the patient is to receive appropriate treatment.



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In India, Iron deficiency anemia is the most commonly encountered hematological disorder, especially among females and children. Pallor of oral mucosa, atrophy of the tongue, angular cheilitis, etc. are some of the early and first oral manifestations of this disorder. Here an oral physician plays a very important role in early diagnosis and management. Oral Medicine and Radiology is one such specialty which provides the missing link between Medicine and Dentistry.

Department of Oral Medicine and Radiology has a curriculum that deals with oral mucosal lesions, tumors, oral manifestations of systemic diseases, radiographic imaging principles and techniques and its interpretation, palliative care and treatment modalities. With recent advances and modernization of imaging techniques this specialty serves as a promising career and research option for aspiring graduates.

15. Programme Mission

Master's degree programme in Oral Medicine and Radiology is a 3-year residency programme. It is mainly associated with training in Oral Medicine, Diagnosis, craniofacial radiology, and applied sciences. The Programme aim is to promote academic growth with utmost importance towards research in the field of molecular advancements, and radio diagnosis. The primary educational aim is to nurture postgraduates to attain excellence in education, research and patient care in the field of oral and cranio facial diagnosis.

The specialty aims to train the postgraduates to acquire good diagnostic acumen and unique skills required in terms of image interpretation, pattern recognition, deduction diagnosis and patient focused care. It provides a platform for maximum learning opportunities and enables them to disseminate the knowledge learnt through the Programme.

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 Instigations 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



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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
- 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 Oral Medicine and Radiology graduates will be able to:

- PO1.** Formulate a diagnosis of orofacial disorders by applying knowledge of basic sciences
- PO2.** Orient students towards principles and applications of basic and advanced radiology.
- PO3.** Manage medically compromised patients and medical emergencies in dental set up
- PO4.** Develop expertise in personal identification procedures using forensic evidence.
- PO5.** Develop research skills for handling scientific problems independently and as a team.
- PO6.** Develop clinical and didactic skills enabling them to become a proficient diagnostician and academician

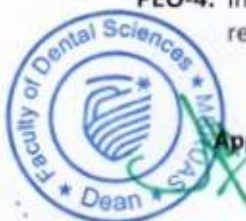
18. Programme Goal

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 Oral Medicine and Radiology

19. Program Educational Objectives (PEOs)

The objectives of MDS in Oral Medicine and Radiology 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 oral and maxillofacial region
- PEO-2.** Impart analytic and cognitive skills required to develop innovative solutions for R&D, Industry, and societal requirements as related to Oral Medicine and Radiology
- 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



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20. Programme Specific Outcomes (PSOs)

At the end of MDS in Oral Medicine and Radiology programme, the graduates will be able to:

- PSO-1.** Explain etiopathogenesis, clinical features, differential diagnosis, clinical, biochemical, and imaging investigations for treatment plan of orofacial disorders
- PSO-2.** Critically appraise radiographic findings for the diagnosis of craniofacial disorders to develop an ideal treatment plan with appropriate medical/dental referrals for holistic patient management
- PSO-3.** Perform appropriate chair side and radiological investigative procedure and administer suitable therapy for craniofacial disorders following comprehensive case history recording
- PSO-4.** Initiate efforts towards handling challenging clinical scenarios; develop research skills in planning and handling scientific problems pertaining to oral health at clinical/community level for a promising career

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	OMC501A	Preclinical and Clinical Phase Basics	3	0	31	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			4	1	36	56	620
Total number of contact hours per week			36				

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



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Year 2							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	OMC502A	Clinical Phase Intermediate	4	0	28	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			6	3	32	73	660
Total number of contact hours per week			36				

Year 3							
Sl. No.	Code	Course Title	Theory (h/W/S)	Tutorials (h/W/S)	Practical (h/W/S)	Total Credits	Max. Marks
1	OMC503A	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

- Team Teaching/ Integrated Teaching
- Face to Face Lectures using Audio-Visuals
- Seminars/journal clubs/e-lectures
- Case Based Discussions



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- 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
 - a. Clinical case discussion/clinical examination for 80 marks for Term 1 (Mid-Year) and Term 2 (Year End)
 - b. Viva Voce for 20 marks each on the module content including assignment for Term 1 (Mid-Year) and Term 2 (Year End)

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
 - a. Clinical case discussion/clinical examination for 80 marks for Term 1 (Mid-Year) and Term 2 (Year End)
 - b. Viva Voce for 20 marks each on the module content including assignment for Term 1 (Mid-Year) and Term 2 (Year End)



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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: Oral and Maxillofacial Radiology

Paper-II: Oral Medicine, therapeutics and laboratory investigations

Paper-III: Descriptive and analysis type question

Clinical Component

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

- i. Assessment based on OSCE for 6 stations - 30 marks
- ii. Case discussion - 2 short cases – 30 marks
- iii. Detailed case discussion with appropriate investigative procedures – 70 marks
- iv. Performing and interpretation of Radiographs – 70 marks

Pedagogy and Viva Voce Component

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

Research, Faculty Common, Elective Modules:

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



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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 see their assessed work
6. Review by external examiners and external examiners reports
7. Staff Student Consultative Committee meetings
8. Student exit feedback
9. Subject Assessment Board (SAB)
10. Programme Assessment Board (PAB)

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	2	2	2
1	Basic and Advanced Life Support*			3							2
1	Personality Development and Soft Skills*						2				2
1	Law for Dental Professionals*				2		1				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



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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.

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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

Course Specifications

Course Title	Preclinical and Clinical Phase Basics
Course Code	OMC501A
Course Type	Program Specialization Teaching Course
Department	Oral Medicine and Radiology
Faculty	Dental Sciences

1. Course Summary

This course provides an integrated approach to basic sciences to diagnose common oral diseases including pulp and periapical pathology. This course is also designed to orient the students towards diagnosis and management of orofacial diseases.

The students will be competent in obtaining a detailed medical and dental history, perform clinical examination and related investigative procedures and formulate a diagnosis independently. The students are trained to perform and interpret intraoral radiographs with a basic understanding of the structure and functioning of an X ray machine, its accessories following radiation safety and protection measures. This course also enables the students to perform various chair side investigations and radiographic procedures with varied adaptations of techniques to suit complex clinical situations. The students will be able to critically evaluate faulty radiographs. The students will gain an in depth knowledge of the principles and applications of extra oral radiography and basics of forensic odontology.

2. Course Size and Credits:

Number of Credits	56
Credit Structure (Lecture: Tutorial: Practical)	24:0:24
Total Hours of Interaction	1800
Number of Weeks in a Year	50
Department Responsible	Oral Medicine and Radiology
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 clinical significance of basic medical sciences in common orofacial disorders
- CO-2. Formulate diagnosis and pharmacologic management of common orofacial disorders
- CO-3. Design diagnostic dental radiology operatory applying protection measures
- CO-4. Analyse personal identification procedures using forensic evidence
- CO-5. Perform intraoral radiographic techniques with modifications in complex clinical situations
- CO-6. Interpret anatomical landmarks in dental radiographs with emphasis on faulty radiographs



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4. Course Contents

Theory

Unit 1: Applied Anatomy Including Embryology, Histology, Osteology of Head and Neck. Gross Anatomy of Face and Neck Including Histology: Muscles of facial expression, muscles of mastication, blood supply, lymphatic drainage and nerve supply, Salivary glands, Endocrine glands, Triangles of the neck, Muscles derived from pharyngeal arches, Infratemporal fossa in detail and temporomandibular joint, Oral cavity, Nasal cavity and Paranasal air sinuses, Pharynx, Gross salient features of brain, spinal cord and cranial nerves V, VII, IX, X, XI, XII.

Unit 2: Embryology - Development of face, palate, paranasal air sinuses, Pharyngeal apparatus including the floor of primitive pharynx, Development of tooth and age related changes, Development of salivary glands, Congenital anomalies of face. **Osteology** – development, ossification, age changes of facial and skull bones

Unit 3: General Physiology: Cell, Body fluid compartments, Structure and properties of a neuron, nerve and muscle fibres, Neuromuscular transmission, Blood, Lymph and their applied aspects; Respiratory system, Cardiovascular system, Excretory system, Gastrointestinal tract, Endocrine system, Central nervous system.

Unit 4: Biochemistry: Carbohydrates, Lipids, Protein, Hormones, Nucleic Acids, Regulation of gene function, Minerals, Energy Metabolism and Vitamins.

Unit 5: Case History: Introduction, Objectives, Definition, Methods, Personal Information, General Physical Examination, Extra oral examination, Intra oral examination, Provisional diagnosis, Differential diagnosis, Investigations, Final diagnosis, Treatment plan.

Unit 6: Investigative procedures: Exfoliative cytology, Laboratory investigations, biopsy and FNAC.

Unit 7: Molecular Biology: Dynamics of cell, Chemical foundation, Protein structure and function, Nucleic acid, the gene code and the synthesis of macromolecules, Biomembranes and subcellular organization of eukaryotic cells, Recombinant DNA and genomics, Genetic analysis in cell biology, Molecular structure of genes and chromosomes, RNA processing, nuclear transport and post transcriptional control, Gene development, glycolysis, aerobic oxidation and photosynthesis, cell to cell signaling, Hormones and receptors.

Unit 8: Caries, Pulp & Periapical Lesions & Periodontal Lesions: Introduction, definition, classification, clinical features & radiological features of periapical and periodontal diseases, treatment plan.

Unit 9: Osteomyelitis & Space Infections: Classification, Microbiology of Osteomyelitis, Etiopathogenesis, Clinical findings, Imaging, Treatment - Antibiotic therapy, Surgical Management.

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Unit 10: Basic Radiology: History of radiology; Radiation physics, Radiation Biology, Radiation protection; X-ray films & accessories, Filtration, collimation, grids, Units of radiation, Processing of image receptors.

Unit 11: Intraoral Radiography: Intraoral radiographic techniques, Principles of radiographic interpretation, Normal radiographic anatomy.

Unit 12: General Pathology & Microbiology: Introduction, Normal cell structure and function, Cellular Adaptations, Cell Injury and Cell Death, Intracellular accumulations, Amyloidosis, Environmental and nutritional diseases, Acute and chronic inflammation, Granulomatous inflammation, Healing of tissues, Immunity and hypersensitivity, Infections, Derangements of body fluids and electrolytes, Circulatory disturbances, Ischemia and infarction, Neoplasia, Diseases of blood and lymphoreticular system, cardiovascular system, respiratory system, endocrinal system. **General microbiology:** Basic immunology, Oral microbiology, Cross infections, Disinfection and sterilization.

Unit 13: Pharmacotherapy in Oral Medicine: Drugs commonly used in dentistry, drug interactions, drug reactions & their oral manifestations and management

Unit 14: Intraoral Faulty Radiography: Common causes of faulty radiographs, projection errors, Exposure and processing errors, Automatic processing errors, miscellaneous errors

Unit 15: Object Localization: Indications of object localization, buccal object rule (SLOB rule), Right angle technique, methodology.

Unit 16: Panoramic Radiography: Principle, Focal trough, Rotation center, Equipment, Exposure parameters, Procedure, Clinical Indications, Advantages and Disadvantages, Interpretation, Common Errors.

Unit 17: Extraoral Radiography: Equipment, Indications, Drawbacks, Radiographic Baselines, Important Parameters, Skull, Maxillary and Mandibular views, common errors

Unit 18: Investigative Procedures: Exfoliative cytology, Laboratory investigations, biopsy and FNAC.

Unit 19: Forensic Odontology: Personal identification using dental evidence in mass disasters and Crimes, Dental profiling, Dentist as an expert witness.

Preclinical Work and Clinical Work

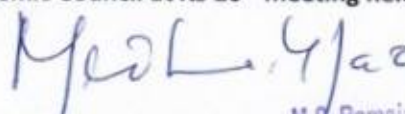
1. Record comprehensive Case histories (Including 5 Special cases) - 75 cases
2. Perform and interpret 200 intraoral and 50 extraoral radiographs (extraoral radiographic tracings – 2 sets).
3. Perform and interpret radiographs by applying modified techniques in complex clinical situations.
4. Critically evaluate and interpret faulty radiographs.
5. Trace 2 sets of Full mouth examination (FMX) radiographs and occlusal radiographs

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6. Observe and assist chair side Investigative procedures e.g. smear/swab, biopsy, FNAC - 10 cases
7. Independently perform cytology(smear/swab)and FNAC for 10 cases and assist biopsy - 5 cases
8. Determine age and gender using various radiographic methods
9. Design radiology operatory

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	2	2		
CO-2.	3	2		2	3		3	3	3	
CO-3.	3		3		3	2	3	2	3	1
CO-4.	3	3			3		2	3		
CO-5.	3	3	3				3	2		2
CO-6.			3		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	
1. Face to Face Lectures	06
2. Seminars, Journal clubs, IDM	108
3. Guest Lecture	06
4. Brain Storming Sessions / Group Discussions / Discussing Possible Innovations	06
5. Case Study Presentation	24
Demonstrations	
1. Demonstration using Videos	10
2. Demonstration using Physical Models/Systems	10
3. Demonstration on a Computer	10
Clinical Work	
1. Pre-Clinical area	500
2. Clinical Area	980
3. Hospital Setup	20
4. Dental camp	20
5. Outreach centres	20
6. Industry/Field Visit	00
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 Oral Medicine and Radiology

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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

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
CO-2.	x		x	x
CO-3.		x	x	x
CO-4.		x	x	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 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	Seminars, Journal clubs
2.	Understanding	Seminars, Journal clubs
3.	Critical Skills	Class room lectures, Seminars, Journal clubs
4.	Analytical Skills	Class room lectures and tutorials
5.	Problem Solving Skills	Clinical posting
6.	Practical Skills	Clinical posting
7.	Group Work	Assignment, Clinical posting
8.	Self-Learning	Assignment, Clinical posting, Tutorials
9.	Written Communication Skills	Assignment,
10.	Verbal Communication Skills	Clinical posting
11.	Presentation Skills	Clinical posting, Seminars, Journal clubs and IDM
12.	Behavioral Skills	Clinical posting
13.	Information Management	Assignment, Tutorial, Seminars, Journal clubs
14.	Personal Management	Clinical posting
15.	Leadership Skills	Group discussion



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9. Course Resources

a. Essential Reading

1. Chaurasia B. D. (2007) Human Anatomy for Dental Students. 4th ed. Noida (India): CBS Publishers.
2. Arthur C. Guyton, John E. Hall (2010) Textbook of Medical Physiology. 12th ed. Philadelphia: Elsevier Saunders.
3. Satyanarayana U, Chakrapani U. (2006) Biochemistry. 3rd ed. Kolkata (India): Books and Allied Pvt Ltd.
4. Steven L. Bricker, Robert P. Langlais, Craig S. Miller (2002) Oral Diagnosis, Oral Medicine and Treatment Planning. 2nd ed. BC Decker Inc.
5. Suresh Chandra B, Gopalkrishna V. (2010) Grossman's Endodontic Practice. 12th ed. Wolters kluwer (India) Pvt Ltd.
6. Harvey Lodish, Arnold Berk, S Lawrence, Zipursky, Paul Matsudaira, David Baltimore, James Darnow W. H. (2000) Molecular cell biology. 4th ed. Freeman and Company
7. Rajendran R. (2012) Shafer's Textbook of Oral Pathology. 7th ed. New Delhi: Elsevier, India.
8. Richard G. Topazian, Morton H. Goldberg (2002) Oral and Maxillofacial Infections. 4th ed. Saunders.
9. Stuart C. White, Michael J. Pharoah (2009) Oral Radiology Principles and Interpretation. 6th ed. New Delhi: Elsevier (India) publishers
10. Harsh Mohan (2007) Essential Pathology for Dental students. 3rd ed. New Delhi: Jaypee publishers.
11. Ananthanarayan and Paniker (2009) Textbook of Microbiology. 8th ed. India: Universities Press.
12. KD Tripathi (2009) Essentials of Medical Pharmacology. 6th ed. New Delhi: Jaypee Publishers.
13. Stuart C. White, Michael J. Pharoah (2009) Oral Radiology Principles and Interpretation. 6th ed. New Delhi: Elsevier (India) publishers.
14. Olaf Langland (1982) Principles and Practice of Panoramic Radiology. 1st ed. WB Saunders.
15. Rajendran R. (2012) Shafer's Textbook of Oral Pathology. 7th ed. New Delhi: Elsevier India.
16. Freny R Karjodkar (2008) Essentials of Dental and Maxillofacial Radiology. 2nd ed. Jaypee publishers.

b. Recommended Reading

1. Henry Gray (2005) Gray's Anatomy. 39th ed. Spain: Elsevier publishing.
2. Eroschesko V. P. (2008) DiFiore's Atlas of Histology with Functional Correlations. 11th ed. New Delhi: Wolters Kluwer
3. Kim Barrett, Heddwen Brooks, Scott Boitano, Susan Barman (2012) Ganong's Review of Medical Physiology. 24th ed. Mc Graw-Hill education.
4. Sanjay Choudary (2008) Textbook of Medical Physiology. 10th ed India: New Central Book Agency.
5. Alberts B, Johnson A, Lewis J, Raff M, Roberts K, Water P. Molecular Biology of the Cell. 4th ed. New York: Garland Science; 2002.
6. Robert K. Murray, Victor W. Rodwell, David Bender, Kathleem M. Botham, P. Anthony Weil, Peter J. Kennelly (2009) Harper's Illustrated Biochemistry. 28th ed. Mc Graw Hill.
7. Gary C Coleman, John F. Nelson (2002) Principles of Oral Diagnosis. 2nd ed. Mosby publishing.

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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

8. Raymond J. Fonseca (2008) Oral and Maxillofacial Surgery. 2nd ed. Saunders publications.
9. Svante R. Orell, Gregory Sterrett. Orell and Sterrett's (2011) Fine Needle Aspiration Cytology. 5th ed China: Elsevier publications.
10. Freny R Karjodkar (2008) Essentials of Dental and Maxillofacial Radiology. 2nd ed. Jaypee publishers.
11. Kenneth M. Hargreaves, Stephen Cohen (2010) Cohen's pathways of pulp Expert consult. 10th ed. Mosby Elsevier publishers.
12. Robbins and Cotran (2014) Pathologic Basis of Disease. 9th ed. Saunders.
13. Goodman & Gilman's (2014) Manual of Pharmacology and Therapeutics. 2nd ed. Mc Graw Hill Education publications.

c. Journals

1. Dento-Maxillofacial Radiology
2. Journal of Oral Medicine, Oral Surgery and Oral Radiology
3. Journal of Indian Association of Oral Medicine and Radiology
4. Journal of Dental Research
5. Journal of American Dental Association
6. British Dental Journal
7. Quintessential International
8. Dental Clinics of North America
9. Australian Dental Journal
10. Journal of Canadian Dental Association
11. International Journal of Anatomy and Research
12. International Journal of Biochemistry and Molecular biology

d. Websites

1. <http://www.nlm.nih.gov/medlineplus/anatomy.html>
2. <http://www.ijmhr.org/ijar.htm>
3. <http://www.ijbmb.org>
4. <http://themedicalbiochemistrypage.org>
5. <http://www.birpublications.org/loi/dmfr>
6. <http://www.oooojournal.net>
7. <http://www.journalonweb.com/jiaomr/>

e. Other electronic resources

1. HELINET
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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

Course Title	Clinical Phase Intermediate
Course Code	OMC502A
Course Type	Program Specialization Teaching Course
Department	MDS in Oral Medicine and Radiology
Faculty	Dental Sciences

1. Course Summary

This Course aims at emphasizing the link between oral and systemic health. This Course also trains the student to employ various light based chair side investigations like colposcopy, vizilite, velscope etc which aids in diagnosis of potentially malignant and malignant oral disorders. The student will be able to diagnose and manage various soft tissue lesions. The student will be trained hands on in the management of medical emergencies.

This Course also enables the student to diagnose and manage various oral diseases, including temporomandibular disorders, salivary gland pathologies, and dermatological lesions. The student will be trained to diagnose oral cancer and formulate a comprehensive treatment plan. The student will also be trained to perform, interpret and report digital radiographic images and CBCT images enabling them to become proficient diagnosticians

2. Course Size and Credits:

Number of Credits	48
Credit Structure (Lecture: Tutorial: Practical)	24:0:24
Total Hours of Interaction	1800
Number of Weeks in a Year	50
Department Responsible	Oral Medicine and Radiology
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. Diagnose developmental/ genetic disorders, odontogenic cysts and tumors affecting the head and neck region
- CO-2. Formulate diagnosis and treatment plan for oral manifestations of systemic and dermatological disorders
- CO-3. Diagnose and manage temporomandibular joint disorders, salivary gland disorders, orofacial pain and potentially premalignant oral epithelial lesions
- CO-4. Employ chair side investigations to diagnose Oral Cancer and formulate treatment plan
- CO-5. Interpret the normal and pathological features in digital and contrast radiographs
- CO-6. Formulate treatment plan in management of medical emergencies in a dental set up

4. Course Contents

Theory

Unit 1: Developmental disturbances of oral and paraoral structures: Definitions, Classification, Developmental disturbances of the jaws, lips, palate, oral mucosa and lines of fusion, tongue,

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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

gingiva, salivary glands & teeth.

Unit 2: Syndromes of head and neck: Deformations and Disruptions, Teratogenic agents Metabolic Disorders, Osteogenesis Imperfecta, Chondrodysplasias and Chondrodystrophies, Craniotubular Bone Disorders, Syndromes of Branchial Arch and Oral Acral Disorders, Proportionate Short Stature Syndromes, Overgrowth Syndromes, Hamartoneoplastic Syndromes, Syndromes affecting the Skin and Mucosa, Syndromes of abnormal Craniofacial Contour, Syndromes affecting the Central Nervous System, Syndromes with Gingival/Periodontal Components, Syndromes with unusual Dental Findings

Unit 3: Genetics: Introduction, The human genome & the chromosomal basis of heredity, Human genome- gene structure & function, tools of human molecular genetics, Principles of Clinical cytogenetics, Clinical cytogenetics- Disorders of the autosomes and the sex chromosomes, Patterns of single gene inheritance, Genetics of common disorders with complex inheritance, Genetic variation in individuals and population, Mutations & Polymorphism, molecular, biochemical & cellular basis of genetic disease, treatment of genetic diseases, Developmental genetics and birth defects, Cancer genetics & genomics.

Unit 4: Odontogenic cysts & tumors of the oral cavity: Definitions, Classification, Epithelial developmental odontogenic cysts, Inflammatory cysts, Non- odontogenic cysts, Non epithelial cysts, Cysts of soft tissues of face and mouth, Syndromes associated with odontogenic cysts, Treatment of cysts, Benign odontogenic tumors, Malignant tumor, Treatment.

Unit 5: Benign and malignant tumors of the oral cavity: Normal structural variants, Inflammatory (reactive) hyperplasias, Hamartomas, Benign virus induced tumors, Syndromes with benign oral neoplastic or hamartomatous components, Acute and granulomatous inflammations, Gingival enlargements.

Unit 6: Oral manifestations of systemic diseases: Diseases of Respiratory tract, Cardiovascular System and Gastrointestinal tract, Renal diseases, Hematological diseases, Bleeding and clotting disorders, Immunological diseases, Transplantation, Infectious Diseases, Diabetes Mellitus and Endocrine Diseases, Neuromuscular Diseases.

Unit 7: Red and white lesions: Definitions, Classification, Hereditary white lesions, Reactive/ Inflammatory white lesions, Infectious white lesions, Leukoplakia, Bowen's disease, Erythroplakia, Oral Submucous fibrosis, Oral Lichen Planus, Lichenoid reactions, Lupus Erythematosus, Developmental white lesions.

Unit 8: Immunologic Disorders: Diseases of the immune system, Autoimmune disorders, Immunodeficiency disorders.

Unit 9: Medical emergencies in dentistry: Prevention, Unconsciousness, Respiratory Distress, Altered unconsciousness, Seizures, Drug related emergencies, Chest pain, Cardiac arrest, Pediatric Considerations.

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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	2	2		
CO-2.	3	2		2	3		3	3	3	
CO-3.	3		3		3	2	3	2	3	1
CO-4.	3	3			3		2	3		
CO-5.	3	3	3				3	2		2
CO-6.			3		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	
1. Face to Face Lectures	06
2. Seminars, Journal clubs, IDM	108
3. Guest Lecture	06
4. Brain Storming Sessions / Group Discussions / Discussing Possible Innovations	20
5. Case Study Presentation	100
Demonstrations	
1. Demonstration using Videos	15
2. Demonstration using Physical Models/Systems	25
3. Demonstration on a Computer	05
Clinical Work	
1. Pre-Clinical area	--
2. Clinical Area	1300
3. Hospital Setup	75
4. Dental camp	30
5. Outreach centres	30
6. Industry/Field Visit	00
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 Oral Medicine and Radiology 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.



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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
CO-2.	x		x	x
CO-3.	x	x	x	x
CO-4.	x	x	x	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 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	Seminars, Journal clubs
2.	Understanding	Seminars, Journal clubs
3.	Critical Skills	Class room lectures, Seminars, Journal clubs
4.	Analytical Skills	Class room lectures and tutorials
5.	Problem Solving Skills	Clinical posting
6.	Practical Skills	Clinical posting
7.	Group Work	Assignment, Clinical posting
8.	Self-Learning	Assignment, Clinical posting, Tutorials
9.	Written Communication Skills	Assignment,
10.	Verbal Communication Skills	Clinical posting
11.	Presentation Skills	Clinical posting, Seminars, Journal clubs and IDM
12.	Behavioral Skills	Clinical posting
13.	Information Management	Assignment, Tutorial, Seminars, Journal clubs
14.	Personal Management	Clinical posting
15.	Leadership Skills	Group discussion



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9. Course Resources

a. Essential Reading

2. Rajendran R. (2012) Shafer's Textbook of Oral Pathology. 7th ed. New Delhi: Elsevier India.
3. Martin S. Greenberg, Michael Glick, Jonathan A. Ship (2008) Burket's oral medicine. 11th ed. McGraw Hill Education.
4. Steven L. Bricker, Robert P. Langlais, Craig S. Miller (2002) Oral Diagnosis, Oral Medicine and Treatment Planning. 2nd ed. BC Decker Inc
5. Nussbaum, McInnes, Willard (2007) Thompson & Thompson Genetics in Medicine. 7th ed. Canada: Saunders Elsevier.
6. Robert J Gorlin, Stefan Levin (1990) Syndromes of the Head and Neck. 3rd ed. New York (USA): Oxford University Press.
7. Mervyn Shear, Paul M. Speight (2007) Cysts of the Oral and Maxillofacial Regions. 4th ed. Australia: Blackwell Publishing Asia Pvt Ltd.
8. Brad W. Neville, Douglas D. Damron, Carl M. Allen (2008) Oral and Maxillofacial Pathology. 3rd ed. Saunders publications.
9. Norman K. Wood and Paul W. Goaz (1997) Differential Diagnosis of Oral and Maxillofacial Lesions. 5th ed. St Louis Missouri (USA): Mosby publishers.
10. Stanley F. Malamed (2007) Medical Emergencies in the Dental Office. 6th ed. Mosby Elsevier publications.
11. Martin S. Greenberg, Michael Glick, Jonathan A. Ship (2008) Burket's oral medicine. 11th ed. McGraw Hill Education.
12. Jeffery P. Okeson (2012) Okeson Management of TM disorders and Occlusion. 7th ed. St. Louis: Mosby publishers.
13. Stuart C. White, Michael J. Pharoah (2009) Oral Radiology Principles and Interpretation. 6th ed. New Delhi: Elsevier (India) publishers.
14. Rajendran R. (2012) Shafer's Textbook of Oral Pathology. 7th ed. New Delhi: Elsevier India.
15. Brad W. Neville, Douglas D. Damron, Carl M. Allen (2008) Oral and Maxillofacial Pathology. 3rd ed. Saunders publications.
16. Norman K. Wood and Paul W. Goaz (1997) Differential Diagnosis of Oral and Maxillofacial Lesions. 5th ed. St Louis Missouri (USA): Mosby publishers.
17. Eric whaites, Nicholas Drage (2013) Essentials of dental radiography and radiology. 5th ed. China: Churchill livingstone Elsevier.
18. Jatin P. Shah, Newell W. Johnson, John G. Batsakis (2003) Oral cancer. United kingdom: Martin Dunitz

b. Recommended Reading

1. Gary C. Coleman, John F. Nelson (1993) Principles of Oral Diagnosis. Mosby yearbook.
2. Crispian Scully & Cawson (2010) Medical Problems in Dentistry. 6th ed. Churchill Livingstone.
3. Freny R Karjodkar (2008) Essentials of Dental and Maxillofacial Radiology. 2nd ed. Jaypee publishers.
4. Olaf E. Langland, Robert P. Langlais, John W. Preece (2002) Principles of dental imaging 2nd ed. Lippincott Williams & Wilkins.

c. Journals

1. Dento-Maxillofacial Radiology
2. Journal of Oral Medicine, Oral Surgery and Oral Radiology
3. Journal of Indian Association of Oral Medicine and Radiology
4. Journal of Dental Research



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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

5. Journal of American Dental Association
6. British Dental Journal
7. Quintessential International Journal
8. Dental Clinics of North America
9. Australian Dental Journal
10. Journal of Canadian Dental Association
11. International Journal of Anatomy and Research
12. International Journal of Biochemistry and Molecular biology

d. Websites

1. <http://www.nlm.nih.gov/medlineplus/anatomy.html>
2. <http://www.ijmhr.org/ijar.htm>
3. <http://www.ijbmb.org>
4. <http://themedicalbiochemistrypage.org>
5. <http://www.birpublications.org/loi/dmfr>
6. <http://www.oooojournal.net>
7. <http://www.journalonweb.com/jiaomr/>

e. Other electronic resources

1. HELINET
2. EBSCO host



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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

Course Title	Clinical Phase Advanced
Course Code	OMC503A
Course Type	Program Specialization Teaching Course
Department	MDS in Oral Medicine and Radiology
Faculty	Dental Sciences

1. Course Summary

This Course enables the student to diagnose and manage infectious diseases, diseases of the tongue and pigmented lesions affecting the oral cavity. The students will be able to differentiate various bony pathologies of the craniofacial region. They are also equipped to plan pharmacotherapy and provide counselling to bring about a behavioral change among tobacco abusers.

This Course also provides an insight into the advanced radiographic techniques like CT, MRI, USG & radionuclide imaging. This Course is also designed to train students to deal with complex clinical scenarios and provide a comprehensive patient management.

2. Course Size and Credits

Number of Credits	51
Credit Structure (Lecture: Tutorial: Practical)	12:0:12
Total Hours of Interaction	1800
Number of Weeks in a Year	50
Department Responsible	Oral Medicine and Radiology
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. Diagnose and manage diseases of the tongue, infectious disorders, pigmented lesions and neuromuscular disorders affecting the oral cavity
- CO-2. Diagnose complex clinical cases and formulate a comprehensive treatment plan
- CO-3. Analyse advanced imaging techniques in head and neck region
- CO-4. Provide comprehensive care for cessation of alcohol & tobacco
- CO-5. Differentiate the radiological appearances of various bone pathologies
- CO-6. Perform basic and advanced radiographic procedures independently and write a report

4. Course Contents

Theory

Unit 1: Diseases of the tongue: Anatomy and functions of the tongue, Examination, Classification and clinical features of tongue lesions, Management considerations.

Unit 2: Infectious diseases affecting the oral cavity – bacterial, viral and fungal: Bacterial infections- Diptheria, Tuberculosis, Leprosy, Actinomycosis, Tetanus, Syphilis, Gonorrhoea



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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

Granuloma Inguinale, Noma, Cat scratch disease; **Viral Infections**- Hepatitis C Virus, HIV Infection, Herpes Simplex, Herpangina, Acute lymphonodular pharyngitis, Hand Foot and Mouth Disease, Measles, Rubella, Small Pox, Molluscum Contagiosum, Condyloma acuminatum, Chicken Pox, Herpes Zoster, Mumps, Nonspecific Mumps, Cytomegalic inclusion disease, Polio Myelitis, Chikungunya, **Fungal Infections**- North American Blastomycosis, South American Blastomycosis, Histoplasmosis, Coccidioidomycosis, Cryptococcosis, Candidiasis, Geotrichosis, Phycomycosis, Sporotrichosis, Rhinosporidiosis, Cysticercosis and Myiasis.

Unit 3: Ulcerative, vesiculobullous and Autoimmune disorders: Herpesvirus Infections, Coxsackievirus Infections, Varicella-Zoster Virus Infection, Erythema Multiforme, Contact Allergic Stomatitis, Oral Ulcers Secondary to Cancer Chemotherapy, Acute Necrotizing Ulcerative Gingivitis, Recurrent Aphthous Stomatitis, Behçet's Syndrome, Pemphigus, Subepithelial Bullous Dermatoses, Histoplasmosis, Blastomycosis, Mucormycosis.

Unit 4: Neuromuscular disorders: Cerebrovascular disease, Cavernous sinus thrombosis, Multiple Sclerosis, Parkinsonism, Huntingtons disease, Cerebral palsy, Bell's Palsy, Guillian – Barre syndrome, Myasthania gravis, Muscular Dystrophy, Epilepsy.

Unit 5: Pigmented lesions of the oral and paraoral structures: Blue/purple vascular lesions, Brown melanotic lesions, Brown heme-associated lesions, Gray/black pigmentations.

Unit 6: Radiographic differential diagnosis of radiolucent, radiopaque and mixed lesions: General Principles of differential Diagnosis, Soft tissue lesions, bony lesions – radiolucencies, mixed radiolucent radiopaque lesions, radiopacities of the jaw, lesions by region

Unit 7: Advanced imaging techniques – CT, MRI, USG.

- a. **Computed tomography:** X ray tubes, computed tomography image, contrast agents, applications, **MRI:** Magnetic resonance signals, T1 T2 relaxation, Tissue contrast and MR images, **USG:** Foundations of sonography, Real Time imaging, Doppler imaging, Abnormalities of the face and neck, Facial Profile, orbits, Nose, maxilla, lips and palate, oral cavity, neck.
- b. **Radionucleotide techniques-** Radionuclides, Scintillation Camera, Single Photon emission CT, Applications, PET (Positron emission tomography).

Unit 8: Practice Management.

Unit 9: Course contents of OMC501A & OMC502A

Clinical work

1. Record comprehensive case history including special cases for 75 cases and 10 special cases.
2. Perform and interpret 200 IOPAs including digital radiographic techniques.
3. Perform and interpret 50 extraoral radiographs including TMJ views.
4. Independently perform cytology and biopsy for 25 cases
5. Forensic odontology exercises and age assessment using radiographs for 5 cases
6. Perform and interpret CBCT images
7. Interpret images of advanced imaging modalities like CT, MRI, USG
8. Training in tobacco cessation counselling and pharmacotherapy
9. Administration of laser therapy



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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

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	2	2		
CO-2.	3	2		2	3		3	3	3	
CO-3.	3		3		3	2	3	2	3	1
CO-4.	3	3			3		2	3		
CO-5.	3	3	3				3	2		2
CO-6.			3		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	30
1. Face to Face Lectures	03
2. Seminars, Journal clubs, IDM	54
3. Guest Lecture	03
4. Brain Storming Sessions / Group Discussions / Discussing Possible Innovations	35
5. Case Study Presentation	55
Demonstrations	
1. Demonstration using Videos	05
2. Demonstration using Physical Models/Systems	20
3. Demonstration on a Computer	--
Clinical Work	
1. Pre-Clinical area	--
2. Clinical Area	1425
3. Hospital Setup	--
4. Dental camp	10
5. Outreach centres	10
6. Industry/Field Visit	--
Term Tests, Laboratory Examination/Written Examination, Presentations	160
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 Oral Medicine and Radiology 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



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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

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
CO-2.	x		x	x
CO-3.	x	x	x	x
CO-4.	x	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	Seminars, Journal clubs
2.	Understanding	Seminars, Journal clubs
3.	Critical Skills	Class room lectures, Seminars, Journal clubs
4.	Analytical Skills	Class room lectures and tutorials
5.	Problem Solving Skills	Clinical posting
6.	Practical Skills	Clinical posting
7.	Group Work	Assignment, Clinical posting
8.	Self-Learning	Assignment, Clinical posting, Tutorials
9.	Written Communication Skills	Assignment,
10.	Verbal Communication Skills	Clinical posting
11.	Presentation Skills	Clinical posting, Seminars, Journal clubs and IDM
12.	Behavioral Skills	Clinical posting
13.	Information Management	Assignment, Tutorial, Seminars, Journal clubs
14.	Personal Management	Clinical posting
15.	Leadership Skills	Group discussion



M. L. Rao

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9. Course Resources

a. Essential Reading

1. Martin S. Greenberg, Michael Glick, Jonathan A. Ship (2008) Burket's Oral Medicine. 11th ed. McGraw Hill Education.
2. Rajendran R. (2012) Shafer's Textbook of Oral Pathology. 7th ed. New Delhi: Elsevier India.
3. Stuart C. White, Michael J. Pharoah (2009) Oral Radiology Principles and Interpretation. 6th ed. New Delhi: Elsevier (India) publishers.
4. Brad W. Neville, Douglas D. Damn, Carl M. Allen (2008) Oral and Maxillofacial Pathology. 3rd ed. Saunders publications.
5. Norman K. Wood and Paul W. Goaz (1997) Differential Diagnosis of Oral and Maxillofacial Lesions. 5th ed. St Louis Missouri (USA): Mosby publishers.

b. Recommended Reading

1. Sandra L Hagen- Ansert (2006) Textbook of Diagnostic Sonography. Vol 1 & 2. 7th Ed. Canada: Elsevier Mosby publications.
2. John R Haaga, Charles F Lanzieri, Robert C Gilkeson (2002) CT and MRI Imaging of the Whole Body. 4th ed. USA: Mosby
3. Rajendran R. (2012) Shafer's Textbook of Oral Pathology. 7th ed. New Delhi: Elsevier India.
4. Brad W. Neville, Douglas D. Damn, Carl M. Allen (2008) Oral and Maxillofacial Pathology. 3rd ed. Saunders publications.
5. Norman K. Wood and Paul W. Goaz (1997) Differential Diagnosis of Oral and Maxillofacial Lesions. 5th ed. St Louis Missouri (USA): Mosby publishers.
6. Eric whaites, Nicholas Drage (2013) Essentials of dental radiography and radiology. 5th ed. China: Churchill livingstone Elsevier.
7. Jatin P. Shah, Newell W. Johnson, John G. Batsakis (2003) Oral cancer. United Kingdom: Martin Dunitz.
8. Freny R Karjodkar (2008) Essentials of Dental and Maxillofacial Radiology. 2nd ed. Jaypee publishers.
9. Olaf Langland (1982) Principles and Practice of Panoramic Radiology. 1st ed. WB Saunders.
10. Mervyn Shear, Paul M. Speight (2007) Cysts of the Oral and Maxillofacial Regions. 4th ed. Australia: Blackwell Publishing Asia Pvt Ltd.
11. Stanley F. Malamed (2007) Medical Emergencies in the Dental Office. 6th ed. Mosby Elsevier publications.
12. Jeffery P. Okeson (2012) Okeson Management of TM disorders and Occlusion. 7th ed. St. Louis: Mosby publishers.
13. Olaf E. Langland, Robert P. Langlais, John W. Preece (2002) Principles of dental imaging. 2nd ed. Lippincott Williams & Wilkins

c. Journals

1. Dento-Maxillofacial Radiology
2. Journal of Oral Medicine, Oral Surgery and Oral Radiology
3. Journal of Indian Association of Oral Medicine and Radiology
4. Journal of Dental Research
5. Journal of American Dental Association
6. British Dental Journal
7. Quintessence International
8. Dental Clinics of North America
9. Australian Dental Journal



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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

10. Journal of Canadian Dental Association

d. Websites

1. <http://www.birpublications.org/loi/dmfr>
2. <http://www.oojournal.net>
3. <http://www.journalonweb.com/jiaomr>
4. <http://www.jomfp.in>

e. Other electronic resources

1. HELINET
2. EBSCO host



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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



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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

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.



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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

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MedL 4/00

Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

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 adjuvant 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.

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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.

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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

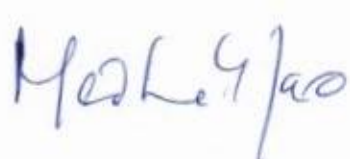
1. Emergency Response Manual


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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

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	3			3		2	2		

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

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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		
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

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	--

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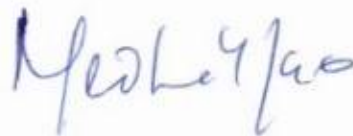
13.	Information Management	Assignment
14.	Personal Management	--
15.	Leadership Skills	--

9. Module Resources

Essential Reading

Modules notes and ppt


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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

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		

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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

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	
Practical Work		00
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.

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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

a. Essential Reading

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

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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

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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	
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	
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



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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

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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.



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

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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 - 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	--

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9. Module Resources

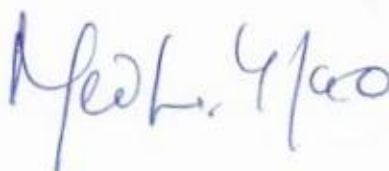
Essential Reading

1. Class notes
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


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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

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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.



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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


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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		
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



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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		
Subcomponent ▶	Component 1: CE	
	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



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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



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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

1. Research Methodology
2. Information search, retrieval and review
3. Project definition and project planning
4. Use of conceptual models and frameworks
5. Problem solving and Evaluation



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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



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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	--

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9. Module Resources

Essential Reading

Relevant books, articles and electronic resources

M. L. G. Rao



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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

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



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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		
Subcomponent ▶	Component 1: CE	
	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

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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022


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


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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

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


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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		



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

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		
Subcomponent ▶	Component 1: CE	
	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



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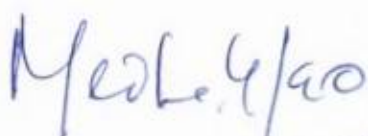
4.	Analytical Skills	Assignment
5.	Problem Solving Skills	Assignment, Examination
6.	Practical Skills	Assignment
7.	Group Work	--
8.	Self-Learning	Self-study
9.	Written Communication Skills	Assignment, Examination
10.	Verbal Communication Skills	--
11.	Presentation Skills	--
12.	Behavioral Skills	--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

9. Module Resources

Essential Reading


Relevant books, articles and electronic resources,


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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

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	80
Report writing	
Presentation preparation	
Evaluation of Report and Presentations	10
Total Duration in Hours	90



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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

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



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Programme Structure and Course Details of MDS in Oral Medicine and Radiology 2022

Annexure I - MDS in Oral Medicine and Radiology
Curriculum Framework and Assessment

S. No.	Course Code	Course Title	Credits	Assessment Marks
I	Programme Specialization Teaching Course			
1	OMC501A	Preclinical and Clinical Phase Basics	48	400
2	OMC502A	Clinical Phase Intermediate	48	400
3	OMC503A	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
4	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
Programme End Examination				
1	a. Part I Programme End Examination b. Part II Programme End Examination		20	700
Total			180	2500

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