RAMAIAH UNIVERSITY OF APPLIED SCIENCES

Programme Structure and Course Details of Master of Dental Surgery in Oral & Maxillofacial Surgery Batch 2025 onwards

Faculty of Dental Sciences
Department of Oral & Maxillofacial Surgery

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

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

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

University's Vision, Mission and Objectives

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

Vision

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

Mission

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

Objectives

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

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Programme Specifications: MDS in Oral & Maxillofacial Surgery

Faculty	Dental Sciences
Department	Oral & Maxillofacial Surgery
Programme Code	067
Programme Name	MDS in Oral & Maxillofacial Surgery
Dean of the Faculty	Dr. Silju Mathew
Head of the Department	Dr. Kavitha Prasad

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

Oral & Maxillofacial Surgery is a specialty which addresses a wide range of problems involving the Head and Neck region which has an impact on the overall health and well-being of the individual. The scope of this specialty is very extensive; from the surgical removal of unsalvageable and impacted teeth, pre-prosthetic surgery and implants to management of maxillofacial space infections, maxillofacial pathology, maxillofacial trauma, orofacial pain, oral cancer, aesthetic facial problems, temporomandibular joint disorders, cleft lip and palate and the like. Also of great importance is the multidisciplinary team approach in the management of these problems by coordinating with the other dental specialties as well as with allied specialties such as anesthesia, neurosurgery, general surgery, otolaryngology, plastic surgery, ophthalmology, medical and radiation oncology and so on.

In the Indian Scenario, the need for the basic maxillofacial surgeon is of prime importance. The common surgical problems have to be skillfully and comprehensively addressed at the grass root level at the primary health care centers. This will definitely impact the rural sector positively where provision of

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preventive and therapeutic care has multiple barriers including lack of awareness, access to oral care and unaffordability.

Specialized intensive clinical and surgical training in this field is mandatory to treat these complex maxillofacial problems and also effectively interact with other allied disciplines to provide holistic care. Higher surgical training in Oral oncology, Aesthetic Facial Surgery and Cleft and Craniofacial problems is fast gaining importance.

Considering the complexity and multidisciplinary nature of the problems involved, continuous lifelong learning through scientific interactions and both basic and clinical research is required for better and more effective treatment solutions. Today, the need of the hour is to train students intensively in the management of oral and maxillofacial problems at the basic level as well as to provide higher surgical training to manage complex cranio-maxillofacial problems so that it is all encompassing.

15. Programme Mission

Master's degree programme in Oral & Maxillofacial Surgery is designed to impart training based on sound professional knowledge coupled with basic surgical skills to enable the student to competently diagnose and treat oral surgical problems. Students will be trained to acquire advanced theoretical and application skills in all facets of Oral & Maxillofacial Surgery; high order skills in analysis, critical evaluation, professional clinical application; and the ability to solve complex problems and think rigorously and independently. The programme will develop a sense of confidence in their surgical skills and clinical judgment and encourage a desire for continuation of professional study and self-improvement. The students are encouraged to meet the human resources requirements in the area of Oral & Maxillofacial Surgery; in oral health care research, in academics and teaching career, specialty practice and also pursue further training through fellowship and continuing education 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

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effect on society and environment

GA-8. **Ethics:** Ability to apply ethical principles to dental practices and professional responsibilities

GA-9. **Individual and Teamwork:** Ability to work as a member of a team, to plan and to integrate knowledge of various dental and allied disciplines and to lead teams in multidisciplinary settings

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 & Maxillofacial Surgery graduates will be able to:

PO1. Impart competency in academics, surgical practice and research in the specialty
PO2. Extend understanding of the principles and practice of Oral & Maxillofacial Surgery in conjunction with other dental and medical specialties
PO3. Develop clinical skills in appraisal and diagnosis of pathologies, injuries and deformities of the Head and Neck region
PO4. Impart training on armamentarium, surgical procedures and techniques
PO5. Enable critical analysis of various treatment options, select the appropriate method based on evidence in literature and deliver it efficiently
PO6. Provide an opportunity and a broader perspective for a career in Oral & Maxillofacial Surgery

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 & Maxillofacial Surgery

19. Program Educational Objectives (PEOs)

The objectives of the MDS in Oral & Maxillofacial Surgery 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 surgical 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 and Maxillofacial Surgery

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

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

20. Programme Specific Outcomes (PSOs)

At the end of the MDS in Oral & Maxillofacial Surgery programme, the graduates will be able to:

PSO-1. Describe the clinical features, pathophysiology, investigations, and medical management of oral conditions, and discuss surgical management of trauma, pathologies and deformities.

PSO-2. Assess available investigative methods and procedures, interpret the clinical and laboratory data to arrive at a definitive diagnosis, discuss treatment options for Oral and Maxillofacial conditions and apply surgical principles during treatment procedures.

PSO-3. Employ Local anesthetic techniques and other methods of anesthesia to perform oral surgical procedures commonly associated with the maxillofacial region.

PSO-4. Take responsibility to overcome difficult situations and develop an attitude to work in a team for a multidisciplinary approach while working in a hospital based setup, develop a research project and make presentations.

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	OSC501B	Preclinical and Clinical Phase Basics	5	0	29	48	400
2	MF501A	Clinical Photography*	-	-	1	1	20
3	MF502A	Basic and Advanced Life Support*	-	-	1	1	20
4	MF503A	Personality Development and Soft Skills*	-	-	1	1	20
5	MF504A	Law for Dental Professionals*	-	-	1	1	20
6	MR501A	Research Methodology	1	-	1	2	40
7	MR504A	Dissertation	-	1	-	2	-
8		Part I - Programme End Examination	-	-	-	-	100
		Total	**6**	**1**	**34**	**56**	**620**
Total number of contact hours per week			**36**				

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

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Year 2							
Sl. No.	Code	Course Title	Theory (H/W/Y)	Tutorials (H/W/Y)	Practical (H/W/Y)	Total Credits	Max. Marks
1	OSC502B	Clinical Phase Intermediate	5	0	27	48	400
2	MR502A	Short term project/Group project	-	-	1	6	100
3	MR503A	Library Dissertation	-	1	-	4	60
4	MR504A	Dissertation	-	1	3	10	
5	MR505A	Conference presentation	-	1	-	1	20
6	MF505A	Teacher Training Module	1	-	-	1	20
7	MG501A	Training in any other institution in India or Abroad	1	-	-	3	60
		Total	**7**	**3**	**31**	**73**	**660**
Total number of contact hours per week			**36**				

Year 3							
Sl. No.	Code	Course Title	Theory (H/W/Y)	Tutorials (H/W/Y)	Practical (H/W/Y)	Total Credits	Max. Marks
1	OSC503B	Clinical Phase Advanced	3	0	33	24	400
2	MR504A	Dissertation	-	2	2	6	200
3	MR506A	Journal Publication	-	1	-	1	20
4		Part II - Programme End Examination	-	-	-	20	600
		Total	**3**	**3**	**35**	**51**	**1220**
Total number of contact hours per week			**36**				

22. Course Delivery:

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

23. Teaching and Learning Methods

a. Team Teaching/ Integrated Teaching
b. Face to Face Lectures using Audio-Visuals
c. Seminars/journal clubs/e-lectures
d. Case Based Discussions
e. Group Discussions, Debates, Presentations

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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**

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

Year 2:

There are 2 components

iii. Theory component consisting of

a. Assignment to be submitted as a word processed document for 100 marks consisting of Section A and Section B

b. Assessment as a written examination for 100 marks consisting of Section A and Section B

iv. **Clinical component consisting of**

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

Year 3:

There are 2 components

v. **Theory component consisting of**

a. Assignment to be submitted as a word processed document for 100 marks consisting of Section A and Section B

b. Assessment as a Mock written examination for Part 2 of Component 2 for 300 marks

vi. Clinical component consisting of

a. Clinical case discussion/clinical examination (80 marks) along with Viva Voce (20 marks) on the course content

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

Part-II

Paper-I: Minor Oral Surgery and Trauma

Paper-II: Maxillo-facial Surgery

Paper-III: Descriptive and analysis type questions

Clinical Component

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

i. Case discussion and performing surgical removal of impacted mandibular third molar – 100 marks
ii. Case discussion and treatment planning of one major surgical case - 60 marks
iii. Case discussion and treatment planning of two minor surgical case - 40 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.

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

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

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	Pre-Clinical and Clinical Phase Basics	3	3	3	3	3	3	3	3	3	3
1	Clinical Photography*	2		2	2			2			
1	Basic and Advanced Life Support*			3					3		3
1	Personality Development and Soft Skills*	2					2				2
1	Law for Dental Professionals*					2	1				2
1	Research Methodology	3					1				3
2	Clinical Phase Intermediate	3	3	3	3	3	3	3	3	3	3
2	Short term project/Group project	3					1				3
2	Library Dissertation	3					1				3
2	Conference presentation	3					1				3
2	Teacher Training Module	3					1				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					1				3
3	Journal Publication	3					1				3
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution											

28. Co-curricular Activities

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

29. Cultural and Literary Activities

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

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

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Course Specifications

Course Title	Preclinical and Clinical Phase Basics
Course Code	OSC501B
Course Type	Program Specialization Teaching Course
Department	Oral & Maxillofacial Surgery
Faculty	Dental Sciences

1. **Course Summary**

This Course equips students to apply basic sciences, follow principles of surgery and perform simple extractions, Minor Surgical procedures and orient them to inpatient hospital care. The students are trained in instrumentation and use of appropriate local anesthetic techniques for extraction of teeth following basic principles of surgery and management of related complications. The students are trained to dissect and demonstrate anatomical structures of the head and neck on cadavers. The students will perform suturing and wiring techniques and local anaesthesia administration on models. The students perform open methods of extraction, minor ridge correction procedures and assist minor surgical procedures by following standard infection control practices. The students are familiarized to conscious sedation techniques and general anesthesia. The students are oriented to multidisciplinary management of hospitalized Oral and Maxillofacial surgical patients. In addition, students identify and manage medical emergencies and arrive at protocols in the dental management of medically compromised patients through interdisciplinary approach. The students diagnose pathologies associated with salivary gland and maxillary sinus.

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 & Maxillofacial Surgery
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 Apply basic science principles to oral surgery including infection control and pharmacotherapy.

CO-2. Demonstrate surgical anatomy of the head and neck on cadavers and suturing and wiring techniques on models.

CO-3. Perform minor surgical procedures with appropriate armamentarium under specific local anaesthetic techniques and analyse related complications

CO-4. Justify patient management protocols and appropriate modes of anaesthesia for major surgical procedures.

CO-5. Describe diagnostic and management protocols for diseases of salivary glands, maxillary sinus and alveolar ridge discrepancies

CO-6. Recognize the need for interdisciplinary approach to manage medical emergencies and dental management of medically compromised patients

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4. Course Contents

Theory

Unit 1: Review Basic Sciences and relate applied aspects of anatomy, physiology, biochemistry, oral and general pathology and microbiology, pharmacology of head, face and neck to oral surgery.

Unit 2: Principles of Surgery: developing a surgical diagnosis, basic necessities for surgery, aseptic technique, incisions, flap design tissue handling, haemostasis, dead space management, decontamination and debridement, suturing, oedema control, patient general health and nutrition, asepsis and antisepsis, microbiological principles, rational use of antibiotics and analgesics, hepatitis and HIV infections and cross infections

Unit 3: Surgical Anatomy of the Head and Neck: layers of the scalp, skin and fascia, muscles, nerves, arteries veins, salivary gland in the head and neck region

Unit 4: Preclinical practices of suturing and wiring: Classification of suture materials and types of suturing techniques. Types of wirings on models.

Unit 5: Exodontia: principles of extraction, indications and contraindications, types of extraction, , principles of elevators and forceps used in oral surgery , complications and their management with application of recent advances.

Unit 6: Local anesthesia: Classification of local anesthetic drugs, mode of action, indications and contra indications, advantages and disadvantages, techniques, complications and their management with application of recent advances.

Unit 7: Medically compromised patients: Clinical history, physical and radiographic, clinical and laboratory diagnosis, oral manifestations of systemic diseases, implications of systemic diseases in surgical patients, informed consent/medico-legal issues.
Concept of fitness for surgery; basic medical work up; work up s in special situations like diabetes, renal failure, cardiac and respiratory illness; risk stratification and arrival at protocols.

Unit 8: Medical Emergencies – Prevention and management of altered consciousness, hyper sensitivity reaction, chest discomfort, respiratory difficulty, syncope, orthostatic hypotension, seizures, diabetes mellitus, adrenal insufficiency.

Unit 9: General anesthesia- Classification, stages of GA, mechanism of action, indications, and contra Indications, advantages and disadvantages, post anesthetic complications and emergencies, anesthetic for dental procedures in children, pre medication, conscious sedation, legal aspects for GA

Unit10: Salivary glands – Sialography, Salivary fistula and management, Diseases of salivary gland – developmental disturbances, cysts, inflammation and sialolithiasis, Mucocele and Ranula, Tumors of salivary gland and their management, Staging of salivary gland tumors, Parotidectomy, Facial Reanimation

Unit 11: Maxillary sinus: Basic anatomy, physiology, diseases/disorders, pathology and treatment including Closure of Oro – antral fistula, Caldwell- luc operation

Unit 12: Transalveolar Extraction: Indications, Contraindications, Surgical procedures and complications of open extraction.

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Unit 13: Pre-prosthetic surgery – Introduction, classification, discussion of basic techniques like Alveoloplasty, frenectomy/ frenotomy and Vestibuloplasty

Preclinical Work

1. Performance of Various Suturing and wiring techniques on models
2. Cadaver based hands on dissection and identification of facial anatomic structures
3. Training on use of metal syringe and cartridges for local anaesthetic administration on models
4. Complete online course on Management of Medical Emergencies in Dental Practice with Certification

Clinical Work:

i. Comprehensive minor surgical management with simple & complicated extractions under local anesthesia – 50 cases

ii. Surgical management and referral of medically compromised patients – 40 cases

iii. Pre-prosthetic surgical management of edentulous patients – 5 cases

iv. Trans alveolar Extraction – 05 cases

v. Performing parenteral route of drug administration – 25 IM and 10 IV cases

vi. Management of salivary gland pathology – 5 cases

vii. Management of maxillary sinus pathology – 5 cases

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

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

6. Course Teaching and Learning Methods

Teaching and Learning Methods		Duration in Hours
Classroom Interaction		240
1. Face to Face Lectures	**05**	
2. Seminars, Journal clubs, IDM	**216**	
3. Guest Lecture	**03**	
4. Brain Storming Sessions / Group Discussions / Discussing Possible Innovations	**08**	
5. Case Study Presentation	**08**	
Demonstrations		

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1. Demonstration using Videos	10	1480
2. Demonstration using Physical Models/Systems	10	
3. Demonstration on a Computer	-	
Clinical / Practical Work		
1. Pre-Clinical area	100	
2. Clinical Area	700	
3. Hospital Setup	460	
4. Field work/dental camp	100	
5. Outreach centres	100	
6. Industry/Field Visit	-	
Term Tests, Laboratory Examination/Written Examination, Presentations	80	
Total Duration in Hours	1800	

7. Method of 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 & Maxillofacial Surgery Programme. The procedure to determine the final Course marks is also presented in the Programme Specifications document. The evaluation questions are set to measure the attainment of the COs. In either component (CE or PEE) or subcomponent of CE (SC1, SC2, SC3 or SC4), COs are assessed as illustrated in the following Table.

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

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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.	Behavioural Skills	Clinical posting
13.	Information Management	Assignment, Tutorial, Seminars, Journal clubs
14.	Personal Management	Clinical posting
15.	Leadership Skills	Group Discussion

9. Course Resources

a. Essential Reading

1. Daniel John Cunningham, George John Romanes (1986) Cunningham's Manual of Practical Anatomy: Volume III: Head, Neck and Brain. 15th Ed. Oxford Medical Publications.
2. Chummy S. Sinnatamby. (2011). Last's Anatomy: Regional and Applied, by Churchill 12th Ed. Livingstone Publications.

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3. B D Chaurasia (2013). B D Chaurasia Human Anatomy Regional & Applied Dissection and Clinical Vol 3: Head Neck Brain. .6th Ed. CBS Publishers.
4. A K Datta. (2012). A K Dutta Essential Of Human Anatomy Vol 2 Head & Neck, 5th Ed. Current Books int. / Distributors,
5. Frank H Netter (2014). Atlas of human anatomy Netter Basic Science. 6th Ed. Elsevier Health Sciences.
6. K. Sembulingam, Prema Sembulingam (2012). Essentials of Medical Physiology. Illustrated Ed, JP Medical Ltd.
7. Bhandarkar S D; Satoskar R S. (1973). Pharmacology and Pharmaceuticals part 1, & 2 17th Ed. Popular Prakashan.
8. Harsh Mohan (2008). Essential Pathology for Dental Students. Jaypee Brothers Publishers.
9. Larry J. Peterson. (2003). Contemporary Oral & Maxillofacial Surgery. 4th Ed COsby.
10. J. Ll Williams, Norman Lester Rowe (1994). Rowe and Williams' Maxillofacial Injuries, Volume 1, Volume 2. 2nd Ed, Churchill Livingstone.
11. K. D. Tripathi (2013). Essentials of Medical Pharmacology. Illustrated Ed JP Medical Ltd.
12. Geoffrey Leslie Howe. (1990). The Extraction of Teeth. 2nd Ed. John Wright.
13. Monheim, C. Richard Bennett (1974). Monheim's Local Anaesthesia and Pain Control in Dental Practice, 5th Ed, C. V. COsby.
14. Stanley. F Malamed (2004) Handbook of local anesthesia, 5th Ed. Elsevier Health Sciences.
15. Daniel M. Laskin (1985). Oral & Maxillofacial Surgery Vol 1 & 2. 2nd Ed, COsby.
16. Gustav O. Kruger (1979)Textbook of Oral & Maxillofacial Surgery .5th Ed, COsby,
17. CK Jayaram Paniker (2005) Textbook of Microbiology. R. Ananthanarayan, 7th Ed. Orient Longman Private Limited,
18. Stanley F. Malamed. (2014) Medical Emergencies in the Dental Office. 7th Ed. Elsevier Health Sciences.
19. Cawson Roderick A, Scully Crispian (1987). Medical problems in dentistry. 2nd Ed. John Wright.
20. David A. McGowan, Prudence W. Baxter, Jacqueline James (1993). The maxillary sinus and its dental implications.2nd Ed. Wright.
21. David Craig, Skelly, Meg (2004). Practical Conscious Sedation (Quintessentials of dental practice series). Quintessence Publishing Co.
22. Seward Gorden R (1998). Killey's and Kay's Outline of oral Surgery Part I& II. 2nd Ed. John Wright.
23. J. S. Zamet, Geoffrey L. Howe (1973). Minor Oral Surgery. 3rd Ed. John Wright.
24. J R Moore (1991). Principles of Oral Surgery. 4th Ed. Manchester Univ Pr.
25. Eric Carlson, Robert Ord (2009).Textbook and Color Atlas of Salivary Gland Pathology: Diagnosis and Management. John Wiley & Sons.
26. Michael Millore, G.E.Ghali. Peter E Larsen (2004). Peterson's Principles of Oral & Maxillofacial Surgery, Vol I & II. 2nd Ed. B C Decker Inc.

b. Recommended Reading

1. Richard Drake, A. Wayne Vogl, Adam W. M. Mitchell. (2009).Gray's Anatomy for Students.2nd Ed, Elsevier Health Sciences.
2. John E. Hall, (2010). Guyton and Hall Textbook of Medical Physiology. 12th Ed. Elsevier Health Sciences.
3. Stanley Leonard Robbins, Ramzi S. Cotran, Vinay Kumar (1989). Robbins' pathologic basis of disease. 4th Ed. Saunders,

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4. M. N. Chatterjee, Rana Shinde (2011).Textbook of Medical Biochemistry. Illustrated Ed. JP Medical Ltd.
5. Gérald D. Allen (1972). Dental anesthesia and analgesia. Williams & Wilkins.
6. Kennedy A.C (1989).Essentials of medicine and surgery for dental students. 5th Ed Churchill Livingstone.
7. Edward Kravitz. Robert L. Pollack, Edward Kravitz (1985) Nutrition in oral health and diseases. Illustrated Ed. Lea & Febiger,
8. Daniel Waite. (1987)Textbook of Practical Oral & Maxillofacial Surgery. 3rd Ed. Lea & Febiger.
9. R. Bruce Donoff (1992).Massachusetts General Hospital. Oral and Maxillofacial Surgery Service. 2nd Ed, illustrated, COsby.
10. David W. Eisele, Shelly J. McQuone (2000). Emergencies of the Head and Neck. 17th Ed. COsby.
11. Hamilton Bailey, Robert John McNeill Love (2000). Bailey and Love's Short Practice of Surgery. 23rd Ed. A Hodder Arnold Publications,
12. Sir Robert Hutchison, R. Bomford, Donald Hunter (1984). Hutchison's clinical methods. 18th Ed. Elsevier Health Sciences.
13. Sakti Das (1987). A Manual on Clinical Surgery: Including Special Investigations and Differential Diagnosis. 2nd Ed. S. Das.
14. Lester William Burket, Martin S. Greenberg, Michael Glick, Jonathan A. Ship. (2008). Burket's Oral Medicine. illustrated Ed. PMPH-USA,
15. David McGowan. (1999). Atlas of Minor Oral Surgery. Thieme
16. Robert L. Witt. Thieme (2011). Salivary Gland Diseases: Surgical and Medical Management.

c. Journals

1. Journal of Orofacial Pain
2. Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontology
3. Journal of Dental Research
4. Quintessence International
5. International Dental Journal
6. Journal of American Dental Association
7. British Dental Journal
8. Australian Dental Journal
9. Journal of Canadian Dental Association
10. Caries Research
11. Dental Traumatology
12. Traumatology
13. Hypertension
14. Anesthesia & Analgesia
15. Indian Journal of Anaesthesia
16. Dental Clinics of North America
17. Karnataka State Dental Journal
18. Archives Of Oral Biology
19. Indian Dentist
20. British Journal of Oral & Maxillofacial Surgery
21. Oral Surgery
22. Journal of Oral & Maxillofacial Surgery

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23. Annals Of Maxillofacial Surgery
24. National Journal of Maxillofacial Surgery
25. Dento maxillofacial Radiology

d. Websites

1. http://journals.lww.com/anesthesia-analgesia/pages/default.aspx
2. http://journals.lww.com/jhypertension/pages/default.aspx
3. http://www.ijaweb.org/
4. http://www.quintpub.com/journals/qi/journal_contents.php?journal_name=qi&current=1#.VGXsfzSga-k
5. http://www.sciencedirect.com/science/journal/00118532
6. http://www.sciencedirect.com/science/journal/00039969
7. http://www.karnatakastatedentalcouncil.com/About_The_Journal.aspx
8. http://www.sciencedirect.com/science/journal/02664356
9. http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1752-248X
10. http://www.sciencedirect.com/science/journal/02782391
11. http://www.sciencedirect.com/science/journal/09015027
12. http://www.amsjournal.com/
13. http://www.njms.in/
14. http://www.birpublications.org/toc/dmfr/current
15. http://www.jcda.ca/about_jcda/information_for_authors/
16. http://www.sciencedirect.com/science/journal/00118532

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Programme Structure and Course Details of MDS in Oral & Maxillofacial Surgery 2025

Course Title	Clinical Phase Intermediate
Course Code	OSC502B
Course Type	Program Specialization Teaching Course
Department	Oral & Maxillofacial Surgery
Faculty	Dental Sciences

1. Course Summary

This Course is designed to equip the students to perform minor corrective/reparative maxillofacial minor surgical procedures under supervision and plan aesthetic facial surgeries

The students perform soft tissue third molar impactions, minor surgical procedures like biopsy and minor soft tissue suturing on the face. .The students should perform periapical surgeries, hard tissue 3rd molar impactions, canine impactions, transplantation of teeth and surgically manage cysts of the oral cavity. The students perform different types of wiring for treatment of maxillofacial fractures. The students assist surgical procedures for the treatment of oro-facial infections, neurological diseases, benign tumors, pre-prosthetic surgeries including major suturing. The students diagnose facial fractures and provide primary and intermediate care to trauma patients. The students are trained in sequential surgical correction of facial clefts and further rehabilitation. The students are involved in treatment planning and assisting aesthetic correction of facial deformities. The students undergo hands on training in various surgical approaches to the facial skeleton and skeletal correction techniques (Osteotomy techniques) on cadavers.

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 & Maxillofacial Surgery
Total Course Marks	400
Pass Criterion	As per the Academic Regulations
Attendance Requirement	As per the Academic Regulations

3. Course Outcomes (COs)

After undergoing this Course, the student will be able to

CO-1 Compare and Contrast benign tumors and cystic lesions of the maxillofacial region
CO-2 Analyse neurological disorders of the maxillofacial region and suggest management
CO-3 Assess infections and injuries involving the oral & maxillofacial region including emergency management
CO-4 Formulate treatment plan for facial cleft deformities, facial aesthetics and aesthetic facial surgeries

CO-5 Perform endodontic surgery, surgical management of cysts, re-implantation and transplantation of teeth and Preprosthetic surgical procedure
CO-6 Demonstrate surgical removal of impacted third molars, canines and premolars

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

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4. Course Contents

Theory

Unit 1: Benign Tumors: includes principles of tumor surgery, all odontogenic and non odontogenic tumors Giant cell lesion of the jaw bones, fibro osseous lesion of the jaw, giant cell lesions.

Unit 2: Neurological disorders of maxillofacial region-diagnosis and management of Trigeminal Neuralgia, MPDS, Bell's palsy, Frey's Syndrome, Nerve injuries

Unit 3: Preprosthetic Surgery: Ridge extension and ridge augmentation procedures. Alveolar Distraction etc.

Unit4: Infections of the head and neck region: Acute and Chronic Odontogenic and non Odontogenic infections of the jaws , factors affecting spread of infection , diagnosis and differential diagnosis, management of facial space infections and their complications.

Unit 5: Primary care like resuscitation, establishment of airway, management of hemorrhage, management of head injuries and admission to hospital, clinical & radiological diagnosis, Tracheostomy: indications and contraindications, procedure, complications and their management, Trauma Life support programme

Unit 6: Maxillofacial trauma: Basic principles of treatment, diagnosis and management of hard and soft tissue injuries, Comprehensive management including polytrauma patients. Classification, examination and diagnosis, general principles of treatment, complications and management of Midfacial and Mandibular fractures: Maxillofacial injuries in geriatric and pediatric patients. Gunshot wounds and war injuries, metabolic response to trauma, healing of traumatic injuries: soft tissues, bone, cartilage, response of peripheral nerve to injury Nutritional consideration following trauma. Osseointegration in maxillofacial reconstruction

Unit 7: Impaction: Surgical anatomy, classification, indications and contraindications, diagnosis, procedures, complications and their management. Surgical aids to eruption of teeth: surgical exposure of unerupted teeth, surgical removal of soft tissue impacted teeth.

Unit 8: Cysts of head and neck region– Cysts of jaw- classification, etiopathogenesis, clinical and radiographic, histopathologic features, differential diagnosis and their management

Unit 9: Cleft lip and palate surgery- detailed knowledge of the development of the face, head and neck, diagnosis and treatment planning, Current concepts in the management of cleft lip and palate deformity, knowledge of nasal endoscopy and other diagnostic techniques in the evaluation of speech and hearing, concept of multi-disciplinary team management.

Unit 10 : Facial Aesthetics and Aesthetic facial surgery Diagnosis and treatment planning of deformities and conditions affecting facial skin, underlying facial muscles, bone, eyelids, external ear etc., surgical management of facial bone recontouring and cosmetic rhinoplasty. Principles, the application of laser and cryosurgery in the surgical management of lesions amenable to such surgeries. Training on minimally invasive Aesthetic procedures such as botox , fillers, thread lifts ,lasers, Peels hair transplantation etc

Unit 11: Orthognathic Surgery: Diagnosis and treatment planning, Cephalometric analysis, Model surgery, Maxillary and mandibular repositioning procedures, Segmental osteotomies, Management of apertognathia, genioplasty etc.

Unit 12: Impacted Teeth: Classification, diagnosis, assessment surgical Techniques forremoval of impacted third molar canines and premolars or paramolars, complications and their management

Unit 13: Surgical Endodontics: Indications and contraindications, diagnosis, procedures of periradicular surgery, transplantation, and auto transplantation/reimplantation of teeth.

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Clinical Work*

1. Management of Salivary Gland Pathology – 5cases
2. Management of Maxillary sinus Pathology – 5 cases
3. Performing parenteral route of administration of drugs – 25 IM and 10 IV cases
4. Performing removal of Soft tissue impacted teeth – 20 cases
5. Assist removal of hard tissue impacted teeth – 40 cases
6. Management of Odontogenic and Non odontogenic infections – 15 cases
7. Management of trauma patients- 20 cases
8. Management of soft tissue injury – 30 cases
9. Management of airway (tracheostomy) – 2 cases
10. Management of benign tumor patient (biopsy) - 10 cases
11. Management of ridge deformities – 4 cases
12. Management of ridge deficiency or deformity (distraction osteogenesis) – 2 cases
13. Management of cystic lesions – 15 cases
14. Interdisciplinary and surgical management of cleft lip and palate – 30 cases
15. Management of patients with facial deformities – 10 cases
16. Management of patient with impacted canines -5 cases
17. Management of endodontic surgery patient – 5 cases
18. Management of odontogenic and non-odontogenic infections – 5 cases
19. Bone and cartilage grafting Procedures – 7 cases
20. Management of Trauma patients – 20 cases
21. Management of soft tissue injury – 30 cases
22. Biopsy procedures – 10 cases
23. Management of ridge deficiency – 4 cases
24. Management of deformed nose – 8 cases
25. Management of ridge deformity or deficiency – 3 cases
26. Cadaver dissection hands-on Approaches to facial skeleton and skeletal correction techniques (osteotomies)

*Completion of special cases is subject to cases coming to OPD. However the required number of cases should be completed by the end of 5th module.

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

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

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

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6. Course Teaching and Learning Methods

Teaching and Learning Methods		Duration in Hours
Classroom Interaction		240
1. Face to Face Lectures	05	
2. Seminars, Journal clubs, IDM	216	
3. Guest Lecture	02	
4. Brain Storming Sessions / Group Discussions / Discussing Possible Innovations	05	
5. Case Study Presentation	12	
Demonstrations		1480
1. Demonstration using Videos	10	
2. Demonstration using Physical Models/Systems	10	
3. Demonstration on a Computer	10	
Clinical / Practical Work		
1. Pre-Clinical area	--	
2. Clinical Area	700	
3. Hospital Setup	550	
4. Field work/dental camp	100	
5. Outreach centres	100	
6. Industry/Field Visit		
Term Tests, Laboratory Examination/Written Examination, Presentations	80	
Total Duration in Hours	1800	

7. Method of 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 & Maxillofacial Surgery Programme. The procedure to determine the final Course marks is also presented in the Programme Specifications document. The evaluation questions are set to measure the attainment of the COs. In either component (CE or PEE) or subcomponent of CE (SC1, SC2, SC3 or SC4), COs are assessed as illustrated in the following Table.

Focus of COs on each Component or Subcomponent of Evaluation				
	Component 1: CE			
Subcomponent ▶	Theory		Practical/Clinical	
Subcomponent Type ▶	SC1 - Written assessment	SC2 - Assignment	SC3 - Clinical Assessment and Viva Voce I	SC4 – Clinical Assessment and Viva Voce II
Maximum Marks ▶	100	100	100	100
CO-1	x			x
CO-2	x	x		x

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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

9. Course Resources

a. Essential Reading

1. Charles C. Alling, John F. Helfrick, Rocklin D. Alling (1993). Impacted teeth. Illustrated Ed. Saunders.
2. J. S. Zamet, Geoffrey L. Howe (1973). Minor Oral Surgery. 3rd Ed. John Wright.
3. Sierro Sandro. Suturing techniques in Oral surgery. Quintessence Publishing Co.
4. Daniel M. Laskin.(1985).Oral & Maxillofacial Surgery Vol 1 & 2. 2nd Ed, COsby,
5. Seward Gorden R (1998). Killey's and Kay's Outline of oral Surgery Part I& II. 2nd Ed John Wright
6. Raymond J. Fonseca (1997).Oral and Maxillofacial Trauma. 2nd Ed.W.B. Saunders Co.

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7. Williams, Norman Lester Rowe J (1994). Rowe and Williams' Maxillofacial Injuries, Volume 1, Volume 2. Ll 2nd Ed. Churchill Livingstone.
8. Peter Banks (1992). Killey s Fracture of the middle third of the facial skeleton. 5th Ed Varghese Publishers
9. Peter Banks (1991). Killey's Fracture of Mandible 4th Ed. Varghese Publishers.
10. Richard G Topazian, Morton H Goldberg (2002). Oral & Maxillofacial Infections. 4th Ed. Saunders Publication.
11. De Vries N, Gluck man J L (1990). Multiple primary tumors in the head and neck, Thieme Medical Pub; 1st Ed.
12. Maynard K Hine, Barnet M Levy (1983). Textbook of Oral Pathology .William G Shafers. 4th Ed. W B Saunders Co
13. Sharokh C Bageri (2013). Clinical Review of Oral & Maxillofacial Surgery. 2nd Ed. COsby.
14. Raymond J Fonseca. W Howard Davis (1995).Reconstructive Preprosthetic Oral & Maxillofacial Surgery. 2nd Ed. W B Saunders.
15. Jens O. Andreasen, Jens Kolsen Petersen, Daniel Laskin (1998). Textbook and Colour Atlas of Tooth Impactions. Illustrated Ed. Wiley.
16. Peter Ward Booth and Barry L Eppley (2011). Maxillofacial trauma and Aesthetic Facial Reconstruction.2nd Ed. Saunders.
17. D J David and A Simpson (1995). Craniofacial Trauma Illustrated Ed. Churchill Livingstone.
18. Langdon D John, Mohan F Patel (2010). Operative Maxillofacial Surgery. 2nd Ed. Hodder Arnold Publications
19. Ole T Jenson (2002). Alveolar Distraction osteogenesis. Illustrated Ed. Quintessence Publishers.
20. Robert E Marx & Arun K Garg (2005). Dental & Craniofacial Applications of Platelet Rich Plasma .1st Ed. Quintessence Publishing Co.
21. Peter Ward booth, Stephen A Sehendel (2007). Maxillofacial Surgery. Voll Vol II. 2nd Ed. Churchill Livingstone.
22. Neelima Anil Malik (2012).Textbook of Oral & Maxillofacial Surgery. 2nd Ed. J P Brothers.
23. William H Bell. William R Profitt, Raymond P (1980). Surgical Correction of Dentofacial Deformities. VOL I, II, III. W B Saunders.
24. Varghese Mani (2010). Orthognathic Surgery, Aesthetic Surgery of the Face. Illustrated Ed. J P Medical Ltd.
25. Johan Reyneke (2010).Essentials of Orthognathic Surgery. 2nd Ed. Quintessence Publishing Co.
26. Joseph G Mc Carthy (1990). Plastic Surgery Vol I, II, III, IV. Saunders.
27. Rene Malek (2001).Cleft Lip & Palate Lesions, Pathophysiology & Primary Treatment. Illustrated Ed. Thieme.
28. Jung I Park, Dean M Toriumi (2006). Asian Facial Cosmetic Surgery, Illustrated Ed. Elsevier/ Saunders
29. Fernando Monasterio, Fernando Ortiz Monasterio, Fernando Molina (1994). Rhinoplasty. Illustrated Ed. Saunders.
30. Bradley James, Thaller Seth R. (2007). Craniofacial Surgery. Illustrated. CRC Press.
31. Mervin Shear, Paul M Speight (2008). Cysts of Oral and Maxillofacial regions... 4th Ed. John Wiley & Sons.
32. J.O.Andreasen, Lennart Håkansson (1992). Atlas of replantation and transplantation of teeth. Illustrated Ed. W.B. Saunders.
33. Charles C. Alling, John F. Helfrick (1993). Impacted teeth. Illustrated Ed. Saunders.
34. William Harry Archer (1975). Oral and Maxillofacial Surgery. Vol 1& 2. 5th Ed. Saunders.

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b. **Recommended Reading**

1. Charles C Alling, Donald B.Osbon (1988).Maxillofacial Trauma. 4th Ed. Lea & Febiger.
2. Jeffrey Sherman A (1992). Oral Electro surgery -Clinical Techniques in Dentistry. CRC Press.
3. John Crawford Adam, David L. Hamblen (1999). Outline of fractures. 11th Ed. Churchill Livingstone.
4. Alexander Schram, Nils-Claudius Gellrich, Rainer Schmelzeisen (2007). Navigational surgery of the facial skeleton. Springer.
5. Soichiro Asanami, Yasunori Kawasaki, T.R. Ward (1990). Expert third molar extraction.3rd Ed. Quintessence Publishing Co.
6. Jens O. Anderson, Frances M. Andreasen (2000). Essentials of Traumatic Injuries to Teeth - A Step-by-Step Treatment Guide. 2nd Ed. Wiley Blackwell.
7. Krenkel Christian (1994). Biomechanics and osteosynthesis of condylar neck fractures of the mandible. 1st Ed. Quintessence Publishing Co.
8. Michael J Yaremchuk, Joseph S Gruss, Paul N Manson (1992). Rigid Fixation of Craniomaxillofacial Skeleton. Butterworth Heinemann Publishers.
9. George Dimitroulis (2001). Handbook of Third molar Surgery. Illustrated Ed. Wright
10. . Kenneth E. Salyer. Janusz Bardach (1999). Salyer and Bardach's Atlas of Craniofacial and Cleft Surgery: Craniofacial Surgery v. 1. Lippincott Williams and Wilkins.
11. Robert M. Pick (1995). Lasers in Dentistry. Leo J. Miserendino,. Quintessence Publishing Co Inc., U.S.
12. Jefferoy A Sherman (1992). Oral Electro surgery an Illustrated Clinical guide. CRC Press.
13. Jung I Park, Dean M Toriumi (2006). Asian Facial Cosmetic Surgery, Elsevier Health Sciences.

c. **Journals**

1. Plastic and reconstructive surgery
2. Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontology
3. Journal of Dental Research
4. Quintessence International
5. International Dental Journal
6. Journal of American Dental Association
7. British Dental Journal
8. Australian dental journal
9. Journal of Canadian Dental Association
10. Caries Research
11. Dental Traumatology
12. Journal of Craniomaxillofacial Surgery
13. Dental Abstracts
14. Journal of Maxillofacial and Oral Surgery
15. International Journal of Oral & Maxillofacial Surgery
16. British Journal of Oral & Maxillofacial Surgery.
17. Clinics of North America
18. Plastic and reconstructive surgery
19. Cleft Palate Craniofacial Journal
20. Dental Abstracts
21. Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontology

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22. Journal of Dental Research
23. Quintessence International
24. International Dental Journal
25. Journal of American Dental Association
26. British Dental Journal
27. Australian dental journal
28. Journal of Canadian Dental Association
29. Caries Research
30. Dental Traumatology
31. Orthodontics and Craniofacial Research
32. Journal of Cranio Maxillofacial Surgery
33. Brain Research Bulletin
34. Journal of Oral Pathology & Medicine
35. Molecular Oral Microbiology

d. Websites

i. http://journals.lww.com/plasreconsurg/pages/default.aspx
ii. http://www.cpcjournal.org/
iii. http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1601-6343
iv. http://www.sciencedirect.com/science/journal/02782391
v. http://www.sciencedirect.com/science/journal/10792104
vi. http://www.sciencedirect.com/science/journal/13688375
vii. http://www.sciencedirect.com/science/journal/10105182
viii. http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1600-9657
ix. http://www.sciencedirect.com/science/journal/03619230
x. .http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1600-0714
xi. http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)2041-1014

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Course Title	Clinical Phase Advanced
Course Code	OSC503B
Course Type	Program Specialization Teaching Course
Department	Oral & Maxillofacial Surgery
Faculty	Dental Sciences

1. Course Summary

This course aims to train the students in the surgical phase of oral implantology and management of TM Joint disorders and oral malignancies and enable the students to perform previously demonstrated surgical procedures under supervision.

The students perform implant surgeries including alveolar ridge augmentation and bone harvesting from intraoral donor sites. The students assist in comprehensive management of TM Joint disorders, oral malignancies and other major surgical procedures. The students describe current concepts in management of craniofacial anomalies. The students perform composite resection of the jaws including neck dissection and hard and soft tissue reconstructive procedures for maxillofacial defects on cadavers.

The students are trained to achieve competency in the comprehensive management of all maxillofacial surgical patients and hands-on training is provided to perform open reduction and internal fixation in simple fractures, sinus lift procedure for implantology , genioplasty in correction of skeletal deformity, scar revision and cheiloplasty in aesthetic facial surgery, osteotomy for canine distraction in orthodontics, surgical management of major cysts including bone harvesting from Tibia and Iliac crest for the correction of alveolar clefts and major cystic defects.

2. Course size and credits:

Number of Credits	24
Credit Structure (Lecture: Tutorial: Practical)	12:0:12
Total Hours of Interaction	1800
Number of Weeks in a Year	50
Department Responsible	Oral & Maxillofacial Surgery
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. Formulate protocols for management of TMJ ankylosis and disorders

CO-2. Appraise the management protocol for malignant tumors of the maxillofacial region

CO-3. Describe current concepts in management of dentofacial deformities and craniofacial anomalies

CO-4. Perform implant placement in patients including bone harvesting from intra oral sites and minor ridge augmentation techniques

CO-5. Cadaveric demonstration of composite resection of the jaws with neck dissection and hard and soft tissue reconstruction

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CO-6. Justify inter disciplinary team approach for comprehensive treatment of Oral & Maxillofacial surgical patient and systematic documentation to facilitate research

4. **Course Contents**

Theory

Unit 1: Temporomandibular joint diseases, disorders and ankylosis : Classification, Etiology, Clinical features, examination, diagnosis and management of temporomandibular joint diseases and disorders including Internal Derangement, MPDS, dislocations and Subluxation and diseases like TM Joint arthritis, tumors etc. Ankylosis and management of the same with different treatment modalities in children and adults.

Unit 2: Oncology - Classification, etiopathogenesis, molecular biology, modes of spread of tumors, diagnosis, understanding of the principles of surgical management of oral malignancies (both primary and neck nodes), including various pre-cancerous lesions. Role of Chemotherapy and radiation for the management of malignancies in maxillofacial region.

Unit 3: Craniofacial surgery – basic knowledge of developmental anomalies of face, head and neck, basics concept in the diagnosis and planning of various head and neck anomalies including facial cleft, craniosynostosis, syndromes, etc., Current concepts in the management of craniofacial anomalies.

Unit 4: Implantology – Definition, classification, indications, contraindications, advantages, disadvantages, treatment planning, implant placement, complications and adjunct surgical procedures for insertion of implants.

Unit 5: Head and neck reconstruction –Various hard tissue and soft tissue reconstruction following ablative surgery.

Unit 6: Orthognathic Surgery: Diagnosis and treatment planning, Cephalometric analysis, Model surgery, Maxillary and mandibular repositioning procedures, Segmental osteotomies, Management of apertognathia, genioplasty etc

Clinical Work*

1. Management of hard tissue third molar impaction – 20 cases
2. Management of Jaw deformities – 5 cases
3. Management of odontogenic and non-odontogenic infections – 5 cases
4. Management of endodontic pathology – 5 cases
5. Grafting of bone and cartilage – 8 cases
6. Management of cystic lesions of the Jaw – 5 cases
7. Management of trauma patient – 10 cases
8. Management of airway (tracheostomy) – 2 cases
9. Management of Oral Cancer Patients – 10 cases
10. Comprehensive management of major surgical procedures - 15 cases
11. Open reduction and internal fixation of simple fractures
12. Sinus lift procedure for Implantology
13. Genioplasty in correction of skeletal deformity
14. Scar revision and cheiloplasty in aesthetic facial surgery
15. Distraction Osteotomy for orthodontics and implantology
16. Bone harvesting from Iliac crest/tibia
17. Management of patients with benign tumors – 5 cases
18. Management of patients requiring Implant surgeries -10 cases

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19. Management of patients with TMJ disorders/diseases/ankylosis - 20 cases
20. Management of patients with craniofacial syndromes - 4 cases
21. Skin grafting procedures – 8 cases
22. Microvascular anastomosis – 5 cases
23. Cadaver dissection Hands-on Neck dissection techniques and harvesting of various flaps for reconstruction of defects

Completion of special cases is subject to cases coming to OPD. However the required number of cases should be completed by the end of 3rd year of course.

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	2	2	3	3	3	1	3	2	2	1
CO-2	2	2	3	3	3	1	3	2	2	1
CO-3	1	2	3	2	2	1	2	3	3	2
CO-4	2	2	3	3	3	3	2	3	3	2
CO-5	2	2	2	3	2	1	3	2		1
CO-6	3	2	2	2	1	3	3	2	2	3
3: Very Strong Contribution, 2: Strong Contribution, 1: Moderate Contribution										

6. Course Teaching and Learning Methods

Teaching and Learning Methods		Duration in Hours
Classroom Interaction		160
1. Face to Face Lectures	03	
2. Seminars, Journal clubs, IDM	108	
3. Guest Lecture	02	
4. Brain Storming Sessions / Group Discussions / Discussing Possible Innovations	15	
5. Case Study Presentation	32	
Demonstrations		1480
1. Demonstration using Videos	05	
2. Demonstration using Physical Models/Systems	05	
3. Demonstration on a Computer	05	
Clinical / Practical Work		
1. Pre-Clinical area	--	
2. Clinical Area	695	
3. Hospital Setup	700	

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4. Field work/dental camp	20	
5. Outreach centres	50	
6.Industry/Field Visit	--	
Term Tests, Laboratory Examination/Written Examination, Presentations	160	
Total Duration in Hours	1800	

7. Method of 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 & Maxillofacial Surgery Programme. The procedure to determine the final Course marks is also presented in the Programme Specifications document. The evaluation questions are set to measure the attainment of the COs. In either component (CE or PEE) or subcomponent of CE (SC1, SC2, SC3 or SC4), COs are assessed as illustrated in the following Table.

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

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

8. Achieving COs

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

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

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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. Course Resources

a. Essential Reading

1. Jatin P. Shah, Snehal G. Patel, Bhuvanesh Singh (2012). Head and Neck Surgery and Oncology. Elsevier Health Sciences.
2. John C. Watkinson, Ralph W. Gilbert (2012). Stell and Maran's Textbook of Head and Neck Surgery and Oncology. 5th Ed. Hodder Arnold.
3. Fernando Ortiz Monasterio, Fernando Ortiz Monasterio, Fernando Molina (1994) Rhinoplasty. Illustrated Ed. Saunders.
4. Bradley James, Thaller Seth R, Garri, Joe I (2007). Craniofacial Surgery. Illustrated Ed. Elsevier Saunders.
5. Raymond J Fonseca, W Howard Davis (1995). Reconstructive Preprosthetic Oral & Maxillofacial Surgery, 2nd Ed W B Saunders Co.
6. Leon A Assael, Andrew S Kaplan (1991). Temporomandibular disorders diagnosis and treatment. W B Saunders.
7. Geoffrey P Okeson (2012).Management of Temporomandibular disorders and Occlusion. 6th Ed. Elsevier Health Sciences.
8. Laskin Daniel M.; Charles S Green (2006).TMDS An evidence-based approach to diagnosis and treatment. 1st Ed. Quintessence Publishing House.
9. Samuel E Lynch; Robert E Marx; Myron Nevins; Leslie A Wisner Lynch (2008). Tissue engineering. 2nd Ed. Quintessence Publishing House.
10. Shan R Baker (2007). Local Flaps in facial re-construction. 2nd Ed. Elsevier Health Sciences.
11. J Regan Thomas (2010). Advanced therapy in facial plastic and reconstructive surgery. Illustrated Ed. PMPH – USA.
12. Guerrero Cesar A; Bell William H (2007). Distraction osteogenesis of the facial skeleton.1st Ed. BC Decker.
13. Samschukov Mikhail L, Jason B. Cope (2001). Craniofacial distraction osteogenesis. 8th Ed. COsby.
14. Georgiade & Others (1992).Text book of Plastic maxillofacial and reconstructive surgery. 2nd Ed. William & Wilkins.
15. Carlos Eduardo Francischone, Laercio Wonhrath Vasconcelos. Per Ingvar Branemark (2000).Osseointegration and Esthetics in Single Tooth Rehabilitation.1st Ed. Quintessence Publishing Co.
16. Thomas Kaus, Ashok Sethi (2005). Practical Implant Dentistry. Quintessence Publishing Co Ltd
17. Daniel M Laskin , A Omar Abubaker. (2007).Decision making in Oral & Maxillofacial Surgery. 1st Ed. Quintessence Publishing Company.

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18. Joseph R Bertino. (2012). Encyclopedia of Cancer. VOL I-IV. 2nd Ed. Academic Press.
19. Regan Thomas. (2010). Advanced Therapy in Facial Plastic and Reconstruction Surgery. PMPH-USA

b. Recommended Reading

1. Peter D Quinn (1998). Color atlas of TMJ Surgery. Mosby.
2. Edward F Wright (2000). Manual of Temporomandibular disorders. 2nd Ed. Wiley Blackwell.
3. Fu-chan Wei, Samir Mardini (2009). Flaps and Re-constructive surgery. Saunders.
4. Alex M Greenberg, Joachim Prein (2002). Cranio-maxillofacial reconstructive and corrective bone surgery. Illustrated Ed. Springer Science & Business Media.
5. Philip J. Boyne, Michael Peetz (1997). Osseous Reconstruction of the Maxilla and the Mandible: Surgical Techniques Using Titanium Mesh and Bone Mineral. Illustrated Ed. Quintessence Publishing Company.
6. M Franklin Dolwlick, Bruce Sanders (1986). TMJ Internal Derangement and Arthrosis. 1st Ed. Mosby.
7. John Edgar deBurgh Norman, Paul Bramley (1990). Textbook and color atlas of the temporomandibular joint: diseases, disorders, surgery. Illustrated Ed. Year Book Medical Publishers.
8. Bernard G Sarnath, Laskin Daniel. M (1991). Temporomandibular Joint A biological basis. 4th Ed. Saunders.
9. Philip Worthington, Per Ingvar Branemark (1992). Advanced Osseointegration Surgery. Applications in Maxillofacial Region. Illustrated Ed. Quintessence Publishing Co.
10. Ingvar Branemark (1997). Osseointegration, Skeletal Reconstruction and Joint replacement. 2nd Ed. Quintessence Publishing Co.

c. Journals

1. Plastic and reconstructive surgery
2. International Journal of Oral & Maxillofacial Surgery
3. International Journal of oral and maxillofacial Implants
4. Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontology
5. Journal of Dental Research
6. Quintessence International
7. International Dental Journal
8. Journal of American Dental Association
9. British Dental Journal
10. Australian dental journal
11. Journal of Canadian Dental Association
12. Caries Research
13. Dental Traumatology
14. Journal of Cranio Mandibular Practice
15. Clinical Implant dentistry & Related Research
16. Clinical Oral Implant Research
17. Journal Of Dental Implants (Indian Edition)
18. International Journal Of Head and Neck Surgery (Indian Edition)
19. Indian Journal of Otolaryngology and Head and Neck Surgery (Indian Edition)
20. Implant Dentistry
21. Journal of Oral Implantology

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d. **Websites**

1. http://www.maneyonline.com/loi/crn
2. http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1708-8208
3. http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1600-0501/issues
4. http://www.jdionline.org/
5. http://www.jaypeejournals.com/eJournals/IssueDetails.aspx?Value=11
6. http://www.springer.com/medicine/otorhinolaryngology/journal/12070
7. http://journals.lww.com/implantdent/pages/default.aspx
8. http://www.joionline.org/
9. http://www.quintpub.com/display.php3?cat=12#.VGXwDjSga-k
10. http://journals.lww.com/plasreconsurg/pages/default.aspx
11. http://www.sciencedirect.com/science/journal/09015027
12. http://www.quintpub.com/journals/qi/journal_contents.php?journal_name=qi&current=1#.VGXsfzSga-k

e. **Other Electronic Resources**

1. EBSCO
2. PUBMED
3. HELINET
4. SCIENCE DIRECT
5. Wiley's online

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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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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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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			
	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 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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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			
	Component 1: CE		
Subcomponent ▶	Theory		
Subcomponent Type ▶	SC1 - Assessment	SC2 - Assignment	
Maximum Marks ▶	10	10	
MO-1	x	x	
MO-2	x	x	
MO-3	x	x	
MO-4	x	x	

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

8. Achieving MOs

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

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

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

7. Module Assessment and Reassessment

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

Focus of MOs on each Component or Subcomponent of Evaluation		
	Component 1: CE	
Subcomponent ▶	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.

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

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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 publicstion 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		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			
	Component 1: CE		
Subcomponent ▶	Theory		
Subcomponent Type ▶	SC1 - Presentation	SC2 - Report	
Maximum Marks ▶	50	50	
MO-1	x	x	
MO-2	x	x	
MO-3	x	x	
MO-4	X	X	
MO-5	x	x	
MO-6	x	x	

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

8. Achieving MOs

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

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

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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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Ramyuth K.V.

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	--

9. Module Resources

Essential Reading

Relevant books, articles and electronic resources

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

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

8. Achieving MOs

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

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

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

1. Module Summary

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

2. Module Size and Credits:

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

3. Module Outcomes (MOs)

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

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

4. Module Contents

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

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

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

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6. Module Teaching and Learning Methods

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

7. Module Assessment and Reassessment

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

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

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

8. Achieving MOs

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

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

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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

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

1. Module Summary

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

2. Module Size and Credits:

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

3. Module Outcomes (MOs)

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

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

MO-2. Make presentation on training obtained

4. Module Contents

Related to training programme

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

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

6. Module Teaching and Learning Methods

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

7. Module Assessment and Reassessment

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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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Annexure I - MDS in Oral & Maxillofacial Surgery
Curriculum Framework and Assessment

S. No.	Course Code	Course Title	Credits	Assessment Marks
I	Programme Specialization Teaching Course			
1	OSC501B	Preclinical and Clinical Phase Basics	48	400
2	OSC502B	Clinical Phase Intermediate	48	400
3	OSC503B	Clinical Phase Advanced	24	400
II	Research Modules			
1	MR501A	Research Methodology	2	40
2	MR502A	Short term project/Group project	6	100
3	MR503A	Library Dissertation	4	60
4	MR504A	Dissertation	10	200
5	MR505A	Conference Presentation	1	20
6	MR506A	Journal Publication	1	20
III	Faculty-Common Modules			
1	MF501A	Clinical Photography	1	20
2	MF502A	Basic and Advanced Life Support	1	20
3	MF503A	Personality Development and Soft Skills	1	20
	MF504A	Law for Dental Professionals	1	20
IV	Elective Modules			
1	MG501A	Training in any other institution in India or Abroad	3	60
2	MF505A	Teacher Training Module	1	20
V	Programme End Examination			
1	a. Part I Programme End Examination b. Part II Programme End Examination		20	700
		Total	180	2500

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