FELLOWSHIP IN LASER DENTISTRY

ABOUT THE UNIVERSITY

Malla Reddy Vishwavidyapeeth is a reputed educational institution located in Hyderabad, Telangana, India. Recognized as a "Deemed to be University under Distinct (Existing) Category," the university offers multidisciplinary programs in medical, dental, nursing, pharmaceutical sciences, engineering, and allied health sciences. The university emphasizes academic excellence, research, innovation, clinical proficiency, and global academic collaborations, contributing significantly to advanced healthcare education and training.

PROGRAM OVERVIEW

The **Fellowship in Laser Dentistry** is a one-year comprehensive academic and clinical training program designed to develop expertise in the use of dental lasers for therapeutic, surgical, and cosmetic applications. The fellowship focuses on:

- Soft tissue and hard tissue laser procedures
- Periodontal therapy with lasers
- Minor oral surgical procedures using lasers
- Laser-assisted endodontic and prosthodontic applications
- Pain management, healing, and tissue regeneration
- Integration of digital tools and imaging with laser therapy

The program integrates theoretical learning with supervised preclinical labs, live clinical procedures, and interdisciplinary collaboration. The hybrid model ensures hands-on skill acquisition and online academic enrichment.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

Graduates will be able to:

PEO1: Demonstrate proficiency in safe and effective use of lasers for dental procedures.
PEO2: Integrate laser applications into periodontal therapy, minor oral surgery, and oral medicine protocols.
PEO3: Apply professional, ethical, and evidence-based principles in laser dentistry practice.
PEO4: Utilize digital imaging, diagnostic tools, and research evidence to optimize laser-based treatments.

PROGRAM OUTCOMES (POS)

1. **Clinical Expertise:** Perform laser-assisted periodontal, surgical, and therapeutic procedures.

2. **Treatment Planning Competence:** Formulate laser-based treatment strategies for dental rehabilitation and pain management.
3. **Evidence-Based Practice:** Apply clinical guidelines and research evidence in laser therapy.
4. **Digital & Technological Proficiency:** Use digital imaging, laser devices, and workflow management systems.
5. **Problem Solving & Critical Thinking:** Manage procedural complications, tissue healing, and interdisciplinary cases.
6. **Communication & Professional Skills:** Communicate treatment plans, risks, and post-procedure care effectively.
7. **Practice Management Competence:** Maintain laser safety protocols, documentation, and patient records.
8. **Lifelong Learning & Research Aptitude:** Engage in clinical research, innovation, and continuous learning.

COURSE OUTCOMES (COS)

- **CO1:** Understand the fundamentals and physics of dental lasers.
- **CO2:** Perform soft and hard tissue laser procedures in clinical settings.
- **CO3:** Integrate laser therapy with periodontal, surgical, and oral medicine interventions.
- **CO4:** Use laser therapy for aesthetic and therapeutic applications including pain management.
- **CO5:** Document, present, and evaluate laser-assisted clinical cases effectively.

PROGRAM-SPECIFIC OUTCOMES (PSOS)

1. Demonstrate competency in laser-assisted periodontal therapy, minor surgery, and oral medicine procedures.
2. Apply evidence-based protocols for laser-assisted healing, tissue regeneration, and pain reduction.
3. Integrate digital imaging, laser safety, and interdisciplinary approaches in patient care.

PROGRAM DETAILS

- **Certificate Awarded by:** Malla Reddy Vishwavidyapeeth
- **Program Duration:** One-Year Modular Fellowship
- **Mode of Delivery:** Hybrid (On-Campus + Online Learning)

ELIGIBILITY CRITERIA

- **Academic Qualification:** B.D.S. or equivalent from a recognized institution
- **Professional Registration:** Valid DCI or equivalent registration

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KEY FEATURES

- Laser dentistry curriculum covering soft & hard tissue applications
- Competency-based preclinical and clinical training
- Live patient exposure under expert supervision
- Integration with periodontal, surgical, and oral medicine care
- Digital dentistry and imaging integration
- Emphasis on laser safety, pain management, and tissue healing
- Access to expert faculty and interdisciplinary mentors
- Use of advanced simulation and preclinical labs
- Research and documentation guidance

LEARNING OUTCOMES

KNOWLEDGE & UNDERSTANDING

- Principles of laser physics and dental laser types
- Indications and contraindications for laser therapy
- Tissue healing, photobiomodulation, and regenerative applications

COGNITIVE SKILLS

- Critical evaluation of laser applications
- Case selection, treatment planning, and risk assessment

PRACTICAL & PROFESSIONAL SKILLS

- Hands-on soft and hard tissue procedures
- Periodontal laser therapy and minor surgical procedures
- Aesthetic laser applications

TRANSFERABLE SKILLS

- Patient communication and counseling
- Clinical documentation and academic writing

SUBJECT-SPECIFIC SKILLS

- Integration of laser therapy into periodontal, surgical, and oral medicine workflows
- Use of digital imaging for planning and evaluation

PROGRAM STRUCTURE – 6 MODULES

Module	Focus Area
Module 1	Fundamentals of Laser Physics & Safety Protocols
Module 2	Soft Tissue Laser Procedures
Module 3	Hard Tissue Laser Applications
Module 4	Periodontal Laser Therapy
Module 5	Minor Oral Surgery & Pain Management
Module 6	Comprehensive Laser Case Management & Digital Integration

CURRICULUM MODULES – THEORY

Module	Key Topics Covered	Learning Outcomes
Module 1	Laser physics, safety, types of dental lasers	Understand laser fundamentals and safe use
Module 2	Soft tissue management, gingival contouring, biopsies	Perform soft tissue laser procedures
Module 3	Hard tissue applications: cavity prep, frenectomies	Execute hard tissue laser procedures
Module 4	Periodontal therapy, scaling, pocket reduction	Apply laser in periodontal management
Module 5	Minor oral surgery, pain management, photobiomodulation	Manage surgical & pain cases with lasers
Module 6	Interdisciplinary case management, documentation, digital workflows	Deliver comprehensive laser-based patient care

ELABORATED PRACTICAL COURSEWORK

1. PRECLINICAL TRAINING

- Laser device handling & calibration
- Phantom head exercises for soft & hard tissue procedures
- Laser safety and infection control
- Mock periodontal therapy and minor surgical exercises

2. SUPERVISED CLINICAL PROCEDURES

- Soft tissue contouring, frenectomies, biopsies
- Hard tissue procedures including cavity preparation & crown lengthening
- Periodontal laser therapy
- Pain management & photobiomodulation applications

3. CLINICAL OBSERVATION

- Observing faculty performing laser-assisted surgeries
- Periodontal laser treatment sessions
- Oral medicine laser procedures

4. CASE EXECUTION & DOCUMENTATION

- 8–10 laser-assisted patient cases
- Digital imaging & laser procedure logs
- Follow-up & patient outcome documentation

5. RESEARCH & ACADEMIC WORK

- Journal clubs
- Case report writing
- Literature review on laser dentistry

6. COMPREHENSIVE CASE PORTFOLIO

- Complete patient cases with laser applications
- Digital documentation, imaging, and outcomes
- Panel case presentation and evaluation

ASSIGNMENTS

- Laser safety & application report
- Case-based laser treatment planning
- Clinical documentation and reflective writing
- Preclinical skill assessment logs

DEPARTMENT RESPONSIBILITIES

- **Periodontics:** Laser-assisted periodontal therapy, gingival contouring
- **Oral & Maxillofacial Surgery:** Minor laser-assisted surgical procedures
- **Oral Medicine:** Pain management, photobiomodulation, diagnostics

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ASSESSMENT & CERTIFICATION

- Direct Observation of Procedural Skills (DOPS)
- OSCE
- Clinical logbook & portfolio
- Case submissions
- Viva voce & panel presentation

NAAC / UGC ANNEXURES

ANNEXURE I: PEO–PO MAPPING

PEO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
PEO1	✓	✓		✓	✓	✓	✓	
PEO2	✓	✓	✓	✓	✓		✓	
PEO3		✓	✓		✓	✓	✓	
PEO4		✓	✓	✓			✓	✓

ANNEXURE II: PO–PSO MAPPING

PO / PSO	PSO1	PSO2	PSO3
PO1	✓	✓	
PO2	✓		✓
PO3		✓	✓
PO4	✓		✓
PO5	✓	✓	✓
PO6	✓	✓	
PO7	✓	✓	
PO8		✓	✓

CO–PO–PSO MAPPING MATRIX

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
CO1	✓	✓	✓		✓				✓	✓	✓
CO2	✓	✓		✓	✓		✓		✓	✓	
CO3		✓	✓	✓		✓	✓	✓	✓		✓
CO4	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
CO5	✓	✓	✓	✓	✓	✓	✓	✓	✓		