



# BIOMEDICAL SCIENCES IN DENTISTRY



## About Us

Welcome to MHPPro Academy, India's premier online learning platform dedicated to advancing medical education for medical professionals and students. We specialize in providing high-quality, accredited courses across various medical disciplines, including Dentistry, Aesthetic Medicine, and more.

At MHPPro Academy, we are committed to empowering medical professionals and medical students with the latest knowledge and skills required to excel in their respective fields. Our goal is to bridge the gap between academic learning and real-world clinical practice through evidence-based online learning provided by leading experts in the field.

### Why Choose MHPPro Academy?

- **Expert-Led Curriculum:** Courses designed and delivered by renowned medical professionals and subject matter experts.
- **Accredited Programs:** Our courses are endorsed by prestigious medical associations and professional bodies.
- **Flexible Online Learning:** Study at your own pace with comprehensive video lectures, study notes, and quizzes.
- **Industry Recognition:** Certifications are recognized by leading medical associations, ensuring credibility and value.
- **Career Advancement:** Enhance your skills, earn recognized credentials, and boost your professional growth.



## Course Introduction

Biomedical Sciences in Dentistry course focuses on the essential principles of pathology, microbiology, dental materials, and pharmacology. This course emphasizes the holistic assessment of patient conditions, integrating both oral and systemic health. You will explore disease mechanisms, microbial infections, and the properties of dental materials, alongside the pharmacological aspects of patient care. By mastering these concepts, you will be equipped to effectively diagnose and treat conditions. Designed to bridge theory with practice, this course prepares you for the challenges of real-world healthcare in dentistry



## Learning Objectives:

- **Understand Pathology:** Grasp the fundamental principles of pathology, including disease mechanisms and their implications for oral health.
- **Explore Microbiology:** Develop knowledge of microbial infections that affect oral health and understand their prevention and management.
- **Assess Dental Materials:** Learn about the properties, applications, and selection criteria of various dental materials used in clinical practice.
- **Study Pharmacology:** Understand the role of drugs in dental treatment, including pharmacokinetics, pharmacodynamics, and prescribing principles.
- **Holistic Patient Assessment:** Enhance skills in assessing both oral and systemic health to provide comprehensive patient care.
- **Integrate Theory and Practice:** Apply theoretical knowledge to practical scenarios, bridging the gap between classroom learning and clinical application.

## Learning Outcomes:

- **Pathological Insight:** Demonstrate an understanding of disease mechanisms and their impact on oral health and overall patient care.
- **Microbial Awareness:** Identify common microbial infections affecting the oral cavity and articulate strategies for their prevention and treatment.
- **Material Selection:** Evaluate and select appropriate dental materials based on their properties and suitability for specific clinical applications.
- **Pharmacological Application:** Explain the pharmacological principles related to the use of medications in dental practice, including indications and contraindications.
- **Comprehensive Patient Care:** Conduct holistic assessments that consider both oral and systemic health factors, ensuring a well-rounded approach to patient treatment.
- **Practical Integration:** Effectively apply theoretical knowledge to practical scenarios, enhancing readiness for real-world clinical challenges in dentistry.

# Who should take up this course?

BDS

MDS

DENTAL STUDENTS

DENTAL PROFESSIONALS

## Course Director



**Dr. Devashree Shukla**

Associate Professor, Department of Dentistry, LN Medical College & JK Hospital, Bhopal

## Course Authors



**Dr. T.S. Subashini**

Senior Lecturer, Dept. Of Pharmacology, SRM Dental College, Chennai



**Dr. Karunya K**

Researcher, Oral Biology Department, Saveetha Dental College, Chennai



**Dr. Preethi Shankar**

Periodontist & Implantologist, Dental Associates Chennai



**Dr. Balaji Rajkumar**

Associate Professor, Dept. of Orthodontics Chettinad Super Speciality Hospital, Chennai

# Curriculum

## Course Title: Dental Science 2<sup>nd</sup> Year

### Module:

### Chapter:

#### PHARMACOLOGY

- General pharmacology
- Drugs acting on ANS and CNS
- General anaesthesia
- Drugs acting on blood
- Drugs acting on Endocrine system
- NSAID
- Drugs for GIT disorders
- Antimicrobial drugs- sulfonamide, beta lactam
- Antimicrobial drugs- tetracyclines, macrolides
- Antimicrobial drugs- anti tubercular & anti-fungal
- Antimicrobial drugs- anti viral, anti- protozoal
- Chemotherapy
- Local anaesthesia
- Drugs acting on CVS
- Diuretics
- Autacoids & vitamins
- Drugs acting on respiratory system
- Drugs in medical emergencies

#### MICROBIOLOGY

- Sterilization And Disinfection
- Microscopy & staining
- Immunology
- Bacteriology
- Culture media & methods
- Virology

# Curriculum

## Course Title: Dental Science 2<sup>nd</sup> Year

### Module:

### Chapter:

#### **MICROBIOLOGY**

- Mycology
- Protozoal infection
- Helminthic infection
- Septicaemia, Pyaemia, Toxaemia

#### **GENERAL PATHOLOGY**

- Cellular adaptation, injury and cellular death, amyloidosis
- Nutritional disorders & vitamin deficiencies
- Inflammation
- Immunity
- Wound healing
- Fluid and hemodynamic disorders
- Neoplasia
- Diseases of blood
- Disease of lymphoreticular tissues
- Systemic pathology – Part 1
- Systemic pathology – Part 2

#### **DENTAL MATERIALS**

- Structure & properties of dental materials
- Amalgam
- Dental composite resins & bonding agents
- Dental cements
- Dental polymers and denture base resins
- Dental ceramics
- Gypsum products

# Curriculum

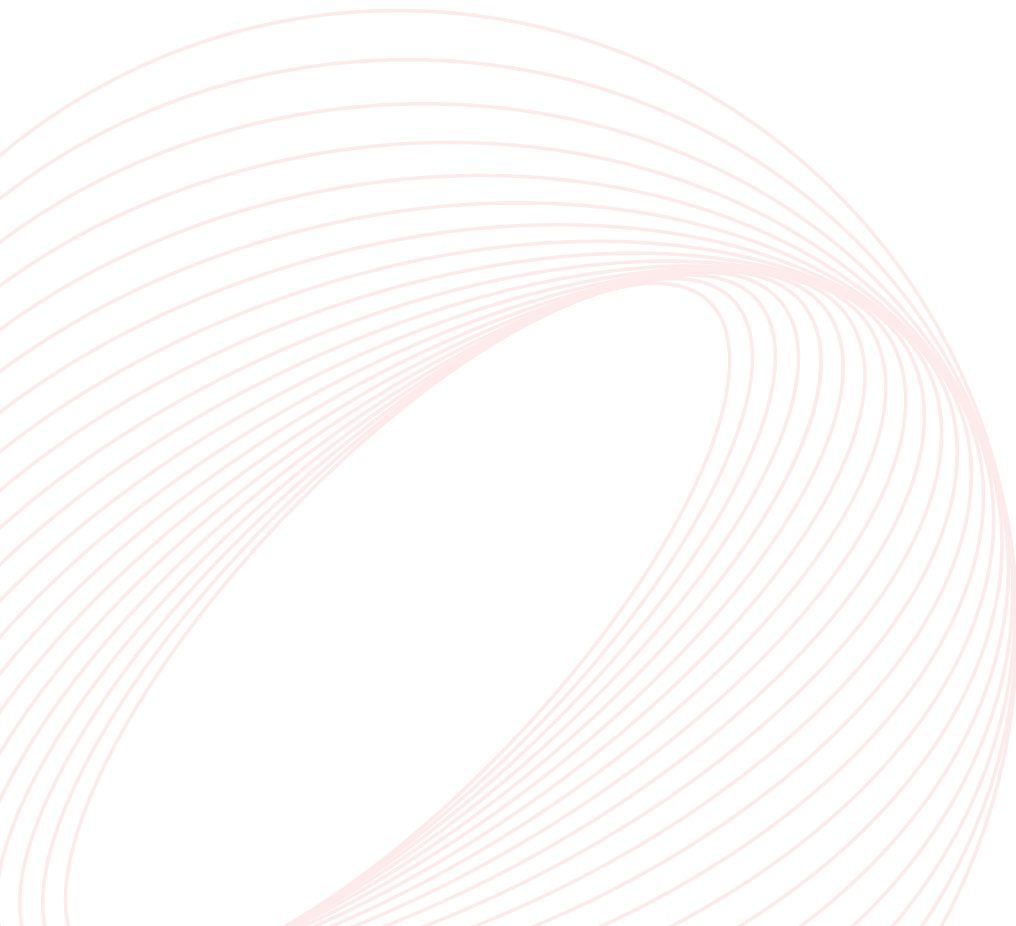
**Course Title: Dental Science**

**Module:**

**DENTAL MATERIALS**

**Chapter:**

- Impression materials
- Direct filling gold
- Dental casting alloys
- Dental wax
- Finishing and polishing materials



# Certificate Sample

