



# ANNOOR DENTAL COLLEGE & HOSPITAL

Affiliated to Mahatma Gandhi University & Kerala University of Health Sciences

Recognised by Dental Council of India and Govt of India)

Muvattupuzha-686679, Ernakulam Dist, Kerala, India

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**2.6.1:** The Institution has stated the learning outcomes (generic and programme-specific) and graduate attributes as per the provisions of the Regulatory bodies and the University; which are communicated to the students and teachers through the website and other documents

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## **ANNOOR DENTAL COLLEGE & HOSPITAL**

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### **2.6.1 COURSE OUTCOMES**



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M	COURSE	COURSE OUTCOME
FIRST BDS	GENERAL HUMAN ANATOMY INCLUDING EMBRYOLOGY AND HISTOLOGY	<ol style="list-style-type: none"> <li>1) Learn to dissect &amp; demonstrate the cadavers &amp; the knowledge is correlated with living subjects during medical examinations.</li> <li>2) Know the anatomical basis of disease &amp; injury.</li> <li>3) Know the microscopic structure of the various tissues, a pre-requisite for understanding of the disease processes.</li> <li>4) Have an idea about the nervous system to locate the site of lesions, an idea about the basis of abnormal development, critical stage of development, effect of teratogens, genetic mutations.</li> </ol> <p>Know the sectional anatomy of head, neck &amp; brain to read the features in radiographs</p>
FIRST BDS	GENERAL HUMAN PHYSIOLOGY	<p>The broad goal of the teaching undergraduate students in Physiology aims at providing the student comprehensive knowledge of the normal functions of the organ systems of the body to facilitate an understanding of the physiological basis of health and disease.</p> <p>At the end of the course, the student will be able to:</p> <ol style="list-style-type: none"> <li>(1) Explain the normal functioning of all the organ systems and their interactions for well co-ordinated total body function.</li> <li>(2) Assess the relative contribution of each organ system towards the maintenance of the milieu interior.</li> <li>(3) List the physiological principles underlying the pathogenesis and treatment of disease.</li> </ol> <p>The student shall be able to:</p> <ol style="list-style-type: none"> <li>(1) Conduct experiments designed for the study of physiological phenomena.</li> <li>(2) Interpret experimental and investigative data</li> <li>(3) Distinguish between normal and abnormal data derived as a result of tests which he/she has performed and observed in the laboratory.</li> </ol>

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FIRST BDS	BIOCHEMISTRY, NUTRITION AND DIETETICS	<ul style="list-style-type: none"><li>• The major aim is to provide a sound but crisp knowledge on the biochemical basis of the life processes relevant to the human system and to dental/medical practice</li><li>• The chemistry portion should strive towards providing information on the functional groups, hydrophobic and hydrophilic moieties and weak valence forces that organise macromolecules</li><li>• An overview of metabolic regulation is to be taught by covering hormonal action, second messengers and regulation of enzyme activities.</li></ul> <p>At the end of the course the student would be able to acquire a useful core of information, which can be retained for a long time.</p>
FIRST BDS	DENTAL ANATOMY, EMBRYOLOGY AND ORAL HISTOLOGY	<ul style="list-style-type: none"><li>• Appreciate the normal development, morphology, structure &amp; functions of oral tissues.</li><li>• Basic knowledge of various laboratory techniques used in oral histology</li><li>• Identifying physiologic ageing process in the dental tissues.</li><li>• Appreciate the histology of dental tissues.</li></ul>
SECOND YEAR BDS	GENERAL PATHOLOGY	<p>At the end of the course the student should be competent to: Apply the scientific study of disease processes, which result in morphological and functional alterations in cells, tissues and organs to the study of pathology and the practice of dentistry.</p> <ul style="list-style-type: none"><li>• To demonstrate and analyze pathological changes macroscopically explain their observations in terms of disease processes.</li><li>• To integrate knowledge from the basic sciences, clinical medicine and dentistry in the study of Pathology.</li><li>• To demonstrate understanding of the</li></ul>

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		<p>capabilities and limitations of morphological Pathology in its contribution to medicine, dentistry and biological research</p> <ul style="list-style-type: none"><li>To demonstrate ability to consult resource materials outside lectures, laboratory and tutorial classes.</li></ul>
SECOND YEAR BDS	GENERAL MICROBIOLOGY	<ol style="list-style-type: none"><li>Understand the basics of various branches of Microbiology and able to apply the knowledge relevantly.</li><li>Apply the knowledge gained, in related medical subjects like General Medicine and General Surgery and Dental subjects like Oral Pathology, Public Health Dentistry, Periodontics, Oral Surgery, Pedodontics, Conservative Dentistry and Oral medicine in higher classes.</li><li>Understand and practice various methods of Sterilisation and disinfection in dental clinics and to carry out proper aseptic procedures in the dental clinic.</li><li>Have a sound understanding of various infectious diseases and lesions in the oral cavity and acquire the skill to diagnose and differentiate various oral lesions.</li></ol> <p>Learn to select, collect and transport clinical specimens to the laboratory.</p>
SECOND YEAR BDS	DENTAL MATERIALS	<ul style="list-style-type: none"><li>Teaching the science and use of various dental materials used in dentistry and also about the materials used for treatment of craniofacial disorders and defects</li><li>Clinical treatment and laboratory materials, Associated materials, Technical consideration, Shelf life, Storage, Manipulations, Sterilization, and Waste management.</li></ul>

  
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SECOND YEAR BDS	GENERAL AND DENTAL PHARMACOLOGY AND THERAPEUTICS	<ol style="list-style-type: none"> <li>1. Should be able to explain the pharmacokinetics and pharmacodynamics of essential and commonly used drugs in dental practice.</li> <li>2. Gain knowledge and ability to identify indications, contraindications, interactions, and adverse reactions of commonly used drugs in dental practice.</li> <li>3. Know prescription and prescription errors.</li> <li>4. Prescribe drug for common dental ailments as well to know the drugs used for medical emergencies and common ailments.</li> <li>5. Evaluate pharmacy preparations and drug formulations.</li> <li>6. Identify and comment on the labelled information.</li> <li>7. Analyse and interpret certain clinical problems and therapeutic exercises.</li> <li>8. Calculate the dose and percentage calculation pertaining to dental practice.</li> <li>9. Able to be a part of pharmacovigilance.</li> </ol>
SECOND YEAR BDS	PRE CLINICAL CONSERVATIVE DENTISTRY	<ul style="list-style-type: none"> <li>• Cavity preparation</li> <li>• Hand instruments identification</li> <li>• Manipulation of cements</li> <li>• Matricing and wedging</li> <li>• Manipulation of amalgam</li> </ul>
SECOND YEAR BDS	PRE CLINICAL ORTHODONTICS	<ul style="list-style-type: none"> <li>• BASICS OF STAINLESS STEEL, ALLOYS &amp; IMPRESSION MATERIALS</li> <li>• STRAIGHTENING OF WIRE,</li> <li>• FABRICATION OF CLASPS</li> <li>• FABRICATION OF ACTIVE COMPONENTS (SPRINGS, BOWS, RETRACTOR)</li> </ul> <p>FABRICATION OF APPLIANCE LIKE HAWLEYS APPLIANCE, EXPANSION APPLIANCE, EXPANSION APPLIANCE, TONGUE GUARD APPLIANCE, CATALANS APPLIANCE</p>
SECOND YEAR BDS	PRECLINICAL PROSTHODONTICS AND CROWN AND BRIDGE	<ul style="list-style-type: none"> <li>• Students are given hands-on training on ideal</li> </ul>

  
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		models for all procedures to be performed in the clinical appointments in coming years
THIRD YEAR BDS	GENERAL MEDICINE	<p>Special emphasis should be given throughout on the importance of various diseases as applicable to dentistry.</p> <ol style="list-style-type: none"><li>Special precautions/ contraindication for anaesthesia in oral and dental procedures in different systemic diseases.</li><li>Oral manifestations of systemic diseases.</li><li>Medical emergencies in dental practice. A dental student is taught in such a manner that he/she is able to record the arterial pulse, blood pressure and be capable of suspecting by sight and superficial examination of the body, diseases of the heart, lungs, kidneys, blood etc. He should be capable of handling medical emergencies encountered in dental practice.</li></ol>
THIRD YEAR BDS	GENERAL SURGERY	<p>To acquaint the student with various diseases which may require surgical intervention. And to train the student to analyze the disease history and be able to do a thorough physical examination of the patient. The diseases as related to head and neck region are to be given due importance, at the same time other relevant surgical problems are also to be addressed.</p> <p>At the end of one year of study the student should have a good theoretical knowledge of various ailments, and be practically trained to differentiate benign and malignant diseases and be able to decide which patient requires further evaluation.</p>
THIRD YEAR BDS	ORAL PATHOLOGY AND ORAL MICROBIOLOGY	<ul style="list-style-type: none"><li>Appreciate the clinical and microscopic features of common lesions affecting oral tissues</li><li>Identify the teeth anomalies</li><li>Appreciate the haematological preparations of common disorders like anaemia</li></ul>

  
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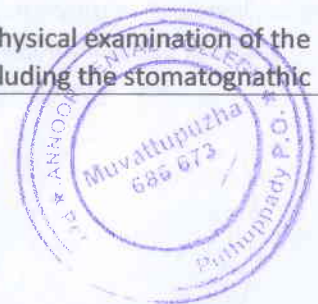
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		<ul style="list-style-type: none"><li>Understanding of the basic exercises in Forensic Odontology such as histological methods of age estimation and personal identification with chelioscopy.</li></ul>
FOURTH YEAR BDS	PUBLIC HEALTH DENTISTRY	<p>At the conclusion of the course the student shall have a knowledge of the basis of public health, preventive dentistry, public health problems in India, Nutrition, Environment and their role in health, basics of dental statistics, epidemiological methods, National oral health policy with emphasis on oral health policy.</p> <p>The students shall have acquire at the skill of identifying health problems affecting the society, conducting health surveys, conducting health education classes and deciding health strategies. Students should develop a positive attitude towards the problems of the society and must take responsibilities in providing health.</p>
FOURTH YEAR BDS	PERIODONTOLOGY	<ol style="list-style-type: none"><li>To evaluate a patient's overall health status by recording a comprehensive case history</li><li>To assess the periodontal status of the individual patients and reach a diagnosis based on the signs and symptoms</li><li>To formulate a suitable treatment plan prioritizing the patient's needs to perform the standard scaling and root planning procedure and to identify the instruments required for the same</li></ol>
FOURTH YEAR BDS	ORAL MEDICINE AND RADIOLOGY	<ol style="list-style-type: none"><li>Demonstrate comprehensive knowledge of the applied anatomy of the face and oral cavity, the basic physiologic processes, pathologic processes and the basics of pharmacologic applications.</li><li>Explain the etiology, epidemiology, clinical presentation and management protocols of the common disorders of oral and para-oral structures.</li><li>Perform thorough physical examination of the various systems, including the stomatognathic</li></ol>

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		<p>system and identify its normal and abnormal functioning</p> <ol style="list-style-type: none"><li>4. Diagnose and manage diseases affecting the oral and para-oral structures through evaluation of the patient's dental and medical history, systemic examination and investigations of the oral and para-oral tissues</li><li>5. Explain the oral manifestations of systemic diseases.</li><li>6. Comprehensive knowledge regarding Case history and diagnostic protocol, Developmental abnormalities of teeth and jaws, Infection control in dentistry, Cervicofacial lymphadenopathy, Diagnosis and radiographic features of dental caries, periodontal and periapical diseases, Chair-side and laboratory investigations, Pulp and periapical diseases and focus of spread of infection, Differential diagnosis of red &amp; white lesions of the oral cavity, Drugs in dentistry, Oral potentially malignant disorders, Oral cancer, biopsy and exfoliative cytology, vesiculobullous diseases, Bone disorders, Blood disorders, Endocrine disorders, Conventional imaging and advanced imaging.</li><li>7. Explain the physics of dental radiology, biologic effects of radiation, radiation protection measures, principles of intra-oral and extraoral radiography, imaging procedures and techniques, indications and limitations of dental radiography</li><li>8. Demonstrate a methodological approach and apply principles of radiographic interpretation in description of lesions.</li><li>9. Operate imaging equipment, accessory devices and film processing equipments to produce quality intra-oral radiographs while</li></ol>
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		<p>incorporating appropriate radiation protection protocols.</p> <ol style="list-style-type: none"> <li>10. Identify the normal conditions and pathologies on a dental radiograph</li> <li>11. Applying high moral and ethical standards while carrying out clinical and radiographic examinations</li> <li>12. Discuss the diagnosis and diagnostic methods, its applications and limitations in dentistry</li> <li>13. Illustrate the diagnostic basis for diseases and conditions in the oral and para-oral structures.</li> <li>14. Outline the principles, clinical and radiographic aspects of Forensic odontology.</li> <li>15. Apply the knowledge of medico-legal aspects while handling patients in the dental clinic</li> <li>16. Communicate effectively and empathetically with patients and explain the disease process, treatment strategies and obtain informed consent.</li> <li>17. Manage patients with medically compromised conditions</li> <li>18. Apply the principles of an evidence-based approach to learning, clinical and professional practice and decision making.</li> <li>19. Demonstrate clinical maturity with a professional attitude towards patients and colleagues</li> <li>20. Apply a research-oriented attitude through literature search and application of established evidence in management strategies</li> </ol>
FOURTH YEAR BDS	ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS	<ul style="list-style-type: none"> <li>• INTRODUCTION &amp; GROWTH ANDEVELOPMENT</li> <li>• OCCLUSION &amp; MALOCCLUSION</li> <li>• DIAGNOSIS</li> <li>• IMPRESSION AND STUDY MODEL FABRICATION</li> </ul>

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		<ul style="list-style-type: none"><li>• MODEL ANALYSIS</li><li>• CEPHALOMETRIC ANALYSIS</li><li>• SHORT CASE HISTORY</li><li>• PREVENTIVE AND INTERCEPTIVE ORTHODONTICS</li><li>• BIOMECHANICS</li><li>• ORTHODONTIC APPLIANCES</li><li>• CORRECTIVE ORTHODONTICS</li><li>• ADULT ORTHODONTICS</li><li>• SURGICAL ORTHODONTICS</li><li>• RETENTION &amp; RELAPSE</li></ul> <p>CASE HISTORY AND APPLIANCE FABRICATION</p>
FOURTH YEAR BDS	ORAL AND MAXILLOFACIAL SURGERY	<p>To produce a graduate who is competent in performing extraction of teeth and minor surgeries under both local and general anaesthesia, prevent and manage related complications, acquire knowledge regarding aseptic procedures, have reasonable understanding of management of infectious patients and prevention of cross infections, learn about BLS, acquire a reasonable knowledge and understanding of the various diseases, injuries, infections occurring in the Oral &amp; Maxillofacial region and offer solutions to such of those common conditions and has an exposure in to the in-patient management of maxillofacial problems and also to acquire reasonable knowledge regarding the surgical principals involved in implant placement and be able to communicate properly and understand medico legal responsibilities</p> <p>A graduate should have acquired the skill to:</p> <ol style="list-style-type: none"><li>(1) Examine any patient with an oral surgical problem in an orderly manner.</li><li>(2) Be able to understand requisition of various clinical and laboratory investigations and is capable of formulating differential diagnosis.</li><li>(3) Should be competent in the extraction of teeth under both local and general anesthesia.</li><li>(4) Should be able to carry out certain minor oral surgical procedures under L.A. simple impactions, draining of abscesses, simple dental wiring, biopsies etc.</li><li>(5) Ability to assess, prevent and manage various complications during and after surgery.</li></ol>

  
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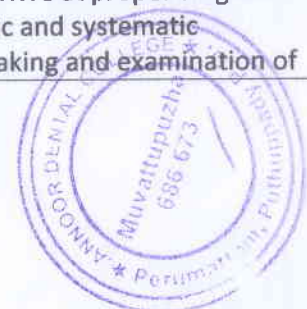
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		<p>(6) Able to provide primary care and manage medical emergencies in the dental office.</p> <p>(7) Understanding of the management of major oral surgical problems and principles involved in inpatient management.</p> <p>(8) Should be competent in measures necessary for homeostasis and wound closures.</p>
FOURTH YEAR BDS	CONSERVATIVE DENTISTRY AND ENDODONTICS	<ul style="list-style-type: none"><li>• Diagnosis</li><li>• Amalgam restoration</li><li>• Composite restoration</li><li>• GIC restoration</li><li>• RCT on extracted tooth</li></ul>
FOURTH YEAR BDS	PROSTHODONTICS AND CROWN AND BRIDGE	<ul style="list-style-type: none"><li>• Students are continuously trained during their clinical postings to diagnose and treatment plan patients requiring complex treatment and to refer them to the required specialties</li><li>• Students are trained and guided to fabricate conventional simple complete and removable partial denture and to prepare full coverage crown on typhodonts</li><li>• Undergraduates are familiarized with the concepts of osseointegration and are invited to assist implant surgical and prosthetic rehabilitation procedure</li><li>• With all the above training, the students are able to carry out routine prosthodontic procedures by the end of the course</li></ul>
FOURTH YEAR BDS	PEDIATRIC AND PREVENTIVE DENTISTRY	<ul style="list-style-type: none"><li>• Student is trained to arrive at proper diagnosis by following a scientific and systematic procedure of history taking and examination of</li></ul>

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		<p>orofacial region. Training is also imparted in management whenever possible</p> <ul style="list-style-type: none"><li>• Detailed history taking &amp; clinical examination, formulating diagnosis and planning comprehensive treatment for the child</li><li>• Detailed history taking &amp; clinical examination, formulating diagnosis and planning comprehensive treatment for the child</li><li>• Permanent Restorations: Permanent and deciduous teeth Amalgam or glass ionomer cement</li><li>• Removable orthodontic appliances Space maintainers / Habit breakers / Hawley's appliance</li><li>• Dental Extractions under LA Extraction of deciduous and permanent teeth</li><li>• Application of conscious sedation unit</li><li>• Special Dentistry Treatment for children with special health care needs</li></ul>
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## Documents of Pertaining To Learning Outcomes And Graduate Attributes



## 2. Course Content

2.1. Title of course:

**Bachelor of Dental Surgery (B.D.S)**

2.2. Aims & Objectives of BDS Course

### A. Aims:

To create a graduate in Dental Science who has adequate knowledge, necessary skills and such attitudes which are required for carrying out all the activities appropriate to general dental practice involving the prevention, diagnosis and treatment of anomalies and diseases of the teeth, mouth, jaws and associated tissues. The graduate should also understand the concept of community oral health education and be able to participate in the rural health care delivery programmes existing in the country.

### B. Objectives:

The objectives are dealt under three headings namely (a) knowledge and understanding (b) skills and (c) attitudes.

#### (a) *Knowledge and understanding*

The student should acquire the following during the period of training.

1. Adequate knowledge of the scientific foundations on which dentistry is based and good understanding of various relevant scientific methods and principles of biological functions.
2. Adequate knowledge to evaluate and analyse scientifically various established facts and data.
3. Adequate knowledge of the development, structure and function of teeth, mouth, jaws and associated tissues both in health and disease and their relationship and effect on general state of health and also their bearing on physical and social well-being of the patient.
4. Adequate knowledge of clinical disciplines and methods, which provide a coherent picture of anomalies, lesions and diseases of the teeth, mouth and jaws.
5. Adequate knowledge on the preventive, diagnostic and therapeutic aspects of dentistry.
6. Adequate knowledge on laboratory steps involved in dental treatment.
7. Adequate clinical experience required for general dental practice.

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8. Adequate knowledge of biological function and behavior of persons in health and sickness as well as the influence of natural and social environment on the state of health so far as it affects dentistry.

(b) **Skills**

A graduate should be able to demonstrate the following skills necessary for practice of dentistry:

1. Able to diagnose and manage various common dental problems encountered in general dental practice, keeping in mind the expectations and the right of the society to receive the best available treatment wherever possible.
2. Acquire skill to prevent and manage complications if any encountered while carrying out various dental surgical and other procedures.
3. Possess skill to carry out required investigative procedures and ability to interpret laboratory findings.
4. Acquire skill in laboratory procedures involved in dental treatment.
5. Promote oral health and help to prevent oral diseases wherever possible.
6. Competent in control of pain and anxiety during dental treatment.

(c) **Attitudes**

A graduate should develop during the training period the following attitudes.

1. Willing to apply current knowledge of dentistry in the best interest of the patients and the community.
2. Maintain a high standard of professional ethics and conduct and apply these in all aspects of professional life.
3. Seek to improve awareness and provide possible solutions for oral health problems and needs throughout the community.
4. Willingness to participate in the continuing education programmes to update knowledge and professional skills from time to time.
5. To help and to participate in the implementation of national health programmes.

C. **Goals of BDS Curriculum**

On completion of the undergraduate training program the graduates shall be competent in the following. –

i. **General Skills**

- Apply knowledge & skills in day to day practice.
- Apply principles of ethics.
- Analyze the outcome of treatment.
- Evaluate the scientific literature and information to decide the treatment.





- Participate and involve in professional bodies.
- Be capable of self-assessment and be willing to update the knowledge & skills from time to time.
- Inclined to do simple research projects.
- Acquire minimum computer proficiency to enhance knowledge and skills.
- Be aware of one's limitations and know when to refer patients to specialists.
- Be familiar with basic Forensic Odontology techniques and manage Geriatric dental problems.
- Death certification

#### ii. **Practice Management**

- Evaluate practice location, population dynamics & reimbursement mechanism.
- Able to communicate freely, orally and in writing with all concerned.
- Maintain records.
- Implement & monitor infection control and environmental safety programs.
- Practice within the scope of one's competence Communication & Community Resources.
- Assess patient's goals, values and concerns to establish rapport and guide patient care.
- Co-ordinate & supervise the activities of allied dental health personnel.
- Participate in improving the oral health of the individuals through community activities.

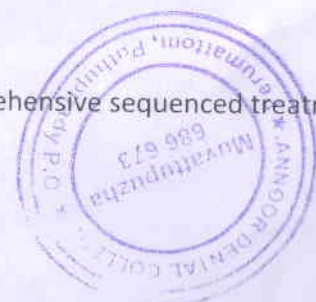
#### iii. **Patient Care – Diagnosis**

- Obtaining patient's history in a methodical way.
- Performing thorough clinical examination.
- Selection and interpretation of clinical, radiological and other diagnostic information.
- Obtaining appropriate consultation.
- Arriving at provisional, differential and final diagnosis.

#### iv. **Patient Care - Treatment Planning**

- Integrate multiple disciplines into an individual comprehensive sequenced treatment plan using diagnostic and prognostic information.
- Be able to order appropriate investigations.

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**v. Patient Care – Treatment**

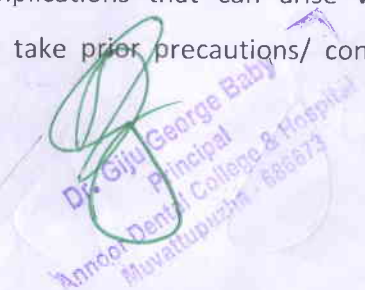
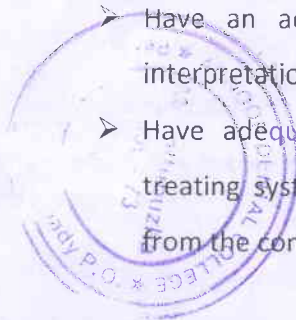
- Recognition and initial management of medical emergencies that may occur during Dental treatment.
- Perform basic cardiac life support.
- Management of pain including post operative.
- Administration of all forms of local anesthesia.
- Administration of intra muscular and venous injections.
- Prescription of drugs, pre operative, prophylactic and therapeutic requirements.
- Uncomplicated extraction of teeth.
- Transalveolar extractions and removal of simple impacted teeth.
- Minor oral surgical procedures.
- Management of Oro-facial infections.
- Simple orthodontic appliance therapy.
- Taking, processing and interpretation of various types of intra oral radiographs.
- Various kinds of restorative procedures using different materials available.
- Simple endodontic procedures.
- Removable and basic fixed Prosthodontics.
- Various kinds of periodontal therapy.

**D. Competencies Expected- Specialty wise**

**ORAL MEDICINE & RADIOLOGY**

On completion of the undergraduate training programme the graduate should:

- Be able to identify the common dental problems like dental caries and periodontal disease and their sequelae
- Be able to differentiate the normal variations and oral mucosal lesions
- Be able to identify pre cancerous and cancerous lesions of the oral cavity and refer to the concerned specialty for their management.
- Have an adequate knowledge about common laboratory investigations and interpretation of their results.
- Have adequate knowledge about medical complications that can arise while treating systemically compromised patients and take prior precautions/ consent from the concerned medical specialist.



- To formulate a clinical diagnosis, order investigations, seek expert consultations to come to a final diagnosis and chart out a proper treatment plan for patients with oral lesions.
- Have adequate knowledge about radiation health hazards, radiation safety and protection.
- Be competent to take intra-oral radiographs and interpret the radiographic findings
- Gain adequate knowledge of various extra-oral radiographic procedures, TMJ radiography and sialography.
- Be aware of the importance of intra- and extra-oral radiographs in forensic identification and age estimation.
- Be familiar with jurisprudence, ethics and understand the significance of dental records with respect to law.

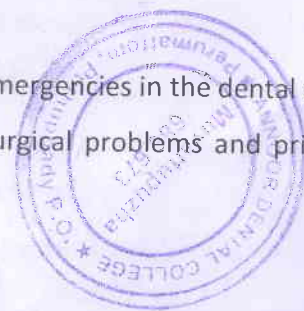
### **ORAL & MAXILLOFACIAL SURGERY**

On completion of the undergraduate training programme the graduate should:

- Be able to apply the knowledge gained in the basic medical and clinical subjects in the management of patients with surgical problems.
- Be able to diagnose, manage and treat patients with basic oral surgical problem
- Have a broad knowledge of maxillofacial surgery and oral Implantology.
- Be familiar with legal, ethical and moral issues pertaining to patient care and communication skills.
- Have acquired the skill to examine any patient with an oral surgical problem in an orderly manner.
- Understand and practice the basic principles of asepsis and sterilization.
- Be competent in the extraction of the teeth under local anesthesia.
- Be Competent to carry out certain minor oral surgical procedures under Local Anesthesia like trans-alveolar extraction, frenectomy, Dentoalveolar procedures, simple impaction, biopsy, etc.
- Be Competent to assess, prevent and manage common complications that arise during and after minor oral surgery.
- Able to provide primary care and manage medical emergencies in the dental office.
- Be familiar with the management of major oral surgical problems and principles involved in the in-patient management.

Be able to Certify Death

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### **PERIODONTOLOGY**

On completion of the undergraduate training programme the graduate should:

- Be able to diagnose the patient's periodontal problem, plan and perform appropriate periodontal treatment.
- Be Competent to educate and motivate the patient.
- Be Competent to perform thorough oral prophylaxis, subgingival scaling, root planning and minor periodontal surgical procedures.
- Give proper post treatment instructions and do periodic recall and evaluation.
- Be Familiar with concepts of osseointegration and basic surgical aspects of implantology.

### **CONSERVATIVE DENTISTRY AND ENDODONTICS**

On completion of the undergraduate training programme the graduate should:

- Be Competent to diagnose all carious lesions.
- Be Competent to perform Class I and Class II cavities and their restoration with amalgam.
- Be able to restore class V and Class III cavities with glass ionomer cement.
- Be able to diagnose and appropriately treat pulpally involved teeth (pulp capping procedures).
- Be able to perform RCT for anterior teeth
- Be competent to carry out small composite restorations
- Understand the principles of aesthetic dental procedures

### **ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS**

On completion of the undergraduate training programme the graduate should:

- Understand about normal growth and development of facial skeleton and dentition.
- Be able to pinpoint aberrations in growth process both dental and skeletal and plan necessary treatment
- Be able to diagnose the various malocclusion categories
- Be able to motivate and explain to the patient and parent/guardian about the necessity of treatment
- Be able to plan and execute preventive orthodontics (space maintainers or space regainers)
- Be able to plan and execute interceptive orthodontics (habit breaking appliances)



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- Be able to manage treatment of simple malocclusion such as anterior spacing using removable appliances
- Be able to handle delivery and activation of removable orthodontic/myofacial appliances.
- Be able to diagnose and appropriately refer patients with complex malocclusion to the specialist.

**PUBLIC HEALTH DENTISTRY**

On completion of the undergraduate training programme the graduate should:

- Apply the principles of health promotion and disease prevention.
- Have knowledge of the organization and provision of health care in community and in the hospital service
- Have knowledge of the prevalence of common dental conditions in India
- Have knowledge of community based preventive measures
- Have knowledge of the social, cultural and environmental factors, which contribute to health or illness.
- Be able to administer hygiene instructions, topical fluoride therapy and fissure sealing.
- Be able to educate patients concerning the etiology and prevention of oral disease and encourage them to assure responsibility for their oral health.

**PROSTHODONTICS AND CROWN & BRIDGE**

On completion of the undergraduate training programme the graduate should:

- Be able to understand and use various dental materials.
- Be competent to carry out treatment of conventional Simple complete and partial removable dentures and anterior crowns.
- Be able to carry out Prosthodontic laboratory procedures.
- Be familiar with the concepts of osseointegration and the value of implant-supported Prosthodontic procedures.
- Be able to diagnose and appropriately refer patients requiring complex treatment procedures to the specialist

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## **PAEDIATRIC AND PREVENTIVE DENTISTRY**

On completion of the undergraduate training programme the graduate should:

- Be able to instill a positive attitude and behavior in children towards oral health and understand the principles of prevention and preventive dentistry right from birth to adolescence.
- Be able to guide and counsel the parents/guardian in regards to various treatment modalities including different facets of preventive dentistry.
- Be able to treat dental diseases occurring in child patient.
- Be able to manage the physically and mentally challenged / disabled children effectively and efficiently, tailored to the needs of individual requirement and conditions.



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## General Outline of BDS Degree Course

- 1) The undergraduate course involves organisation of year-wise teaching program. However, this course, as a whole, should demonstrate integration of the basic sciences, clinical dentistry and practical or laboratory skills. The course should be designed and integrated in such a way as to permit smooth progression from pre-clinical to clinical phase. Collaboration should be encouraged between teachers of basic sciences, dental sciences and clinical subjects.
- 2) The undergraduate dental course consists of three main components. The first component consists subjects common to modern medicine and dentistry like anatomy, physiology, biochemistry and behavioral science, leading to pharmacology, pathology, microbiology and then on to general medicine and general surgery. The second component runs concurrently with the first and deals with special aspects of oral and dental tissues, oral biology and oral pathology. Finally, the third component based on the foundations of the first two, deals with the clinical and technical aspects of dentistry as is required for general dental practice.
- 3) The first component of the course is intended to provide initially, an appreciation of normal human structure, development, function and behavior, leading to understanding of the diseases, its prevention and treatment. The main objective is to provide student with a broad knowledge of normal structures and functions of the body, the alterations which take place in disease with particular reference to those conditions in which medical and dental co-operation

  
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- 6) The commitment towards the society as a whole needs to be stressed along with the knowledge and treatment skills gained. Instruction in public health dentistry should emphasise the sociological aspects of health care and palliative care particularly; oral health care, including the reasons for variation in oral and dental needs of different sections of the society. It is important to know the influence of social, behavioral, environmental and economic factors on oral and dental health. Students should be made aware of the National oral health Policy and the importance of being a member of the Health care team delivering medical and oral health care particularly among rural population. Students should also be encouraged to participate in simple research project work
- 7) The undergraduate curriculum stresses the significance of infection and cross infection control in dental practice. Aspects like sources of infection, measures to be adopted both general and specific for control, particularly the HIV and hepatitis is incorporated in the curriculum so that the graduates are aware of its significance and follow it in their practice.
- 8) The information technology has touched every aspect of an individual's personal and professional life. The University hence recommends that all undergraduates acquire minimum computer proficiency, which will enable them to enhance their professional knowledge and skills.

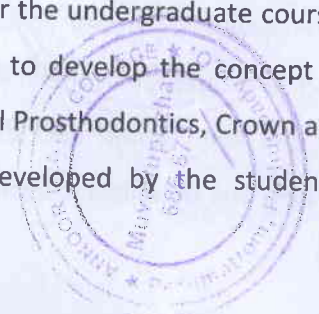
## 2.5 Duration & course of Study

1. The undergraduate dental training program leading to B.D.S. degree shall be of four and a half years duration in addition to one year compulsory paid rotating internship. During this period, the students shall be required to engage in full time study at a Dental college recognized or approved by the Dental Council of India. During the first four and a half years of undergraduate course, the instruction in clinical subjects should be at least for two and a half years.

### 2. Basic Medical & Dental Subjects

The basic medical and dental sciences comprise of Anatomy - Gross and Microscopic, Physiology, Biochemistry, Pharmacology, science of Dental Materials and Oral biology. Subjects like behavioral sciences, which would be useful to develop communication skills, should also be introduced in the first year itself and spread over the undergraduate course. An introduction to Public Health Dentistry also will be useful to develop the concept of commitment to community. The laboratory skills like pre-clinical Prosthodontics, Crown and Bridge, Conservative dentistry and Orthodontics is to be developed by the students.

  
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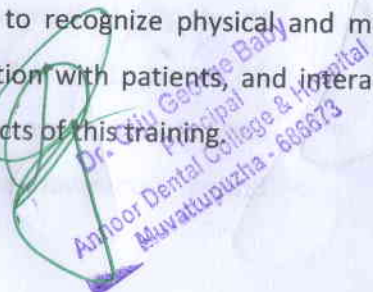
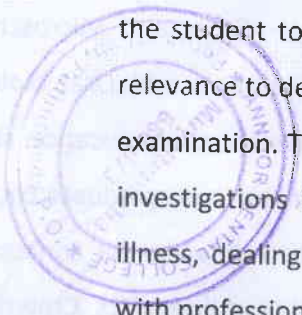
Studying dental morphology also is a part of initial training. At the end of this period student should be in a position to understand and comprehend in general the development, structure and function of the human body in both health and disease.

3. The instruction in basic dental sciences should include theoretical and practical aspects of oral anatomy and physiology, to provide a detailed knowledge of the form and structure of teeth, associated tissues and occlusal relationships. The study should also aim at development of a concept regarding physiological and biochemical processes relevant to oral cavity for better understanding of the changes that occur with the onset of disease in the oral cavity. The student should be made aware of the importance of various dental tissues in forensic investigation.

4. Clinical, Medical and Dental subjects:

The students should be introduced to clinics in the initial stage, preferably in the first year, as an observer to familiarize with clinical set-up and working. The period of instruction in the clinical subjects shall not be less than two and a half years full time. During this, the student shall attend a dental hospital, general hospital, community camps and satellite clinics, in order to obtain instruction and experience in the practice of dentistry. The main objective of training in clinical dental subjects is to produce a graduate, able and competent to recognize or diagnose various dental and oral diseases, to undertake general dental treatment, advice on the provision of specialized treatment available and finally advise the patient on prevention. The student should also understand the relationship between oral and systemic diseases.

5. The general medicine and surgery training should provide sufficient knowledge on human disease to enable the student to understand its manifestations as relevant to the practice of dentistry. This requires clinical teaching on patients and shall be carried out in inpatient and outpatient medical departments and specialist clinics. This clinical instruction should enable the student to understand and perhaps diagnose common systemic diseases, which have relevance to dental practice, by adopting a systematic approach of history taking and clinical examination. The student should also realize the significance of various general and special investigations in the diagnosis of diseases. The ability to recognize physical and mental illness, dealing with emergencies, effective communication with patients, and interaction with professional colleagues also become important aspects of this training.





6. All dental students should receive instruction in first-aid and principles of cardio-pulmonary resuscitation. The students should also attend to the accident and emergency department of a Medical hospital.
7. The purpose of the clinical training is to provide sufficient practical skill in all aspects of clinical dentistry. The instruction should also include patient management skills, treatment of patients of all ages with special reference to children (paediatric), very elderly (geriatric), medically compromised and disabled patients.
8. During the two and a half years of clinical course, the students should receive thorough instruction which involves history taking, diagnosis and treatment planning in all aspects of dentistry and should be competent on graduation to carry out all routine general procedures. In Oral & Maxillofacial Surgery, instruction should include the knowledge of various maxillofacial problems like injuries, infections and deformities of the jaws and associated structures. The clinical experience should include those procedures commonly undertaken in general practice like extraction of teeth, minor oral surgical procedure etc. In Conservative dentistry and Endodontics, Prosthodontics and Crown & Bridge and Periodontology students should be competent on graduation to carry out routine treatments like restorations of various types, endodontic procedures, removable Prosthodontics, and finally various kinds of periodontal therapy. In Orthodontics & Dentofacial Orthopaedics, students should carry out simple appliance therapy including myofacial appliances for patients. Students should also be able to appreciate the role of Dentofacial growth in the development and treatment of malocclusion. In addition, students should be aware of their limitations on graduation, need to refer patients for consultant opinion and/or treatment and also the need for postgraduate and continuous education programmes.
9. In Paediatric & Preventive Dentistry, the students should concentrate on effective management of the behavior of the child patient to instill a positive attitude, on efficacy of preventive measures and clinical management, including the treatment needs particularly for children with disabilities. In oral medicine and Radiology, the student should receive instruction in various common lesions, occurring in the oral cavity and its diagnosis with particular reference to oral cancer. All students should receive instructions and gain practical experience in taking various types of intra and extra oral radiographs and its processing and interpretation. They should be aware of the hazards of radiation and proper

protective measures from radiation for the patient, operator and other staff.

Paediatric dentistry involves the practice of various branches of clinical dentistry, training

Paediatric Dentistry is extended to Part II of the final year.

10. The successful control and management of pain is an integral part of dental practice. Upon graduation the students should be competent to administer all forms of local anesthesia. The value of behavioral methods of anxiety management should be emphasized. The students should also have the practical experience in the administration of intra-muscular and intra-venous injections. Knowledge of pain mechanisms and strategies to control post-operative pain is essential for practice of dentistry.
11. Instruction should be given in dental jurisprudence, legal and ethical obligations of dental practitioners and the constitution and functions of Dental Council of India. Students should be made competent in the management of medico legal cases and death certification.
12. Infection and cross infection control assume significance in dental practice. The students should be made aware of the potential risk of transmission of various infectious diseases particularly HIV and hepatitis in the dental surgery. The students should be aware of their professional responsibility for the protection of the patients, themselves and their staff and the requirements of the health and safety regulations.
13. The subjects of Aesthetic dentistry, Oral Implantology, Behavioral sciences and Forensic Odontology have assumed great significance. Hence, these four specialties are incorporated into the undergraduate curriculum. The instruction and clinical training in aesthetic dentistry shall be carried out by the departments of Prosthodontics and Crown & Bridge and Conservative Dentistry & Endodontics. Similarly, the instruction and clinical training in Oral Implantology shall be done by the departments of Prosthodontics and Crown & Bridge, Oral & Maxillofacial Surgery, and Periodontology. The instruction in behavioral sciences should ideally commence before the students come in contact with the patients and shall be carried out by the departments of Public Health Dentistry and Paediatric and Preventive Dentistry. Forensic Odontology including procedures of death certification will be a part of Oral Pathology & Oral Microbiology, Oral Medicine & Radiology and Oral & Maxillofacial Surgery.



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