

# BDS PROGRAM

## COURSE OUTCOMES

<b>COURSE : GENERAL HUMAN ANATOMY HISTOLOGY &amp; EMBRYOLOGY</b>	
<b>CO 1</b>	Know and understand the microscopic structure of the various human tissues as a pre-requisite for understanding of the disease processes.
<b>CO 2</b>	Know and understand about the embryological development of foetus , critical stages of tissue development , effects of teratogens and genetic mutations on them.
<b>CO 3</b>	Know and understand the structures of the human body and mark its topography for understanding the normal and abnormal functioning of all systems specially in the head and neck region.
<b>CO 4</b>	Know the sectional anatomy of head neck and brain and apply it to read the features by radiographic techniques and for clinical understanding of diseases.
<b>CO 5</b>	Apply the knowledge of normal disposition of the structures in the human body to clinically examining a patient conduct clinical procedures.

<b>COURSE : GENERAL PHYSIOLOGY &amp; BIOCHEMISTRY</b>	
<b>CO 1</b>	Understand the normal physiological functioning of all the organ systems and their interactions for well-coordinated total body function.
<b>CO 2</b>	Assess the relative contribution of each organ system towards the maintenance of the milieu interior of the human body.
<b>CO 3</b>	List the physiological and biochemical principles underlying the pathogenesis and treatment of diseases affecting human body.
<b>CO 4</b>	Conduct & interpret experimental and investigative data from the study of physiological and biochemical phenomenas.
<b>CO 5</b>	Distinguish between normal and abnormal data derived as a result of tests which he/she has performed and observed in the laboratory.

<b>COURSE : DENTAL MATERIALS</b>	
<b>CO 1</b>	Students should be aware of the classification, composition and setting reaction of dental materials.
<b>CO 2</b>	Students should have the knowledge and understanding of physical, chemical, mechanical, biological and rheological properties as well as the application of various dental materials.
<b>CO 3</b>	Students should be able to analyze and select the appropriate materials depending on the advantages, disadvantages, indications and contraindications of various materials.
<b>CO 4</b>	Students should know and should be able to perform manipulation of dental materials.
<b>CO 5</b>	Students should have the awareness and develop the acumen about the modern dental materials and recent innovative processing technique.

<b>COURSE : GENERAL PATHOLOGY &amp; MICROBIOLOGY</b>	
<b>CO 1</b>	Know and understand the normal homeostatic mechanisms and the cause , effect and nature of its derangement by internal and external processes.
<b>CO 2</b>	Understand the reparative, hemodynamic and immunological responses produced in different tissues and organs by cell injury , infectious , non infectious diseases and neoplasia.
<b>CO 3</b>	Understand the basic biology of various microorganisms and the beneficial and harmful effects of their virulence on human immunity and tissues.
<b>CO 4</b>	Perform and interpret the basic bed-side clinical pathological and cytological procedures on blood , urine and saliva samples for diagnosis of diseases.
<b>CO 5</b>	Evaluate the gross and microscopic features , clinical presentation and diagnostic techniques associated with different diseases in different organ systems to the extent needed for the understanding of disease processes and their clinical significance.
<b>CO 6</b>	Use the principals of microbiology and pathology to practice various methods of sterilisation and disinfection in dental clinics.

<b>COURSE : GENERAL PHARMACOLOGY &amp; THERAPEUTICS</b>	
<b>CO 1</b>	Understand the pharmacokinetics and pharmacodynamics of essential and commonly used drugs in general medicine with special emphasis to practice of clinical dentistry.
<b>CO 2</b>	Choose appropriate medication for prescription to the patient based on indications , contraindications , interactions and adverse reactions of the drug using scientific rationale.
<b>CO 3</b>	Apply special care in prescribing common and essential drugs in special medical situations such as pregnancy, lactation, old age, renal, hepatic damage and immuno compromised patients.
<b>CO 4</b>	To appreciate adverse reactions and drug interactions of commonly used drugs and render appropriate care in prevention and treatment of the same.
<b>CO 5</b>	Critically evaluate and compare drug formulations of commonly marketed preparations used in dentistry on ethical and scientific basis.

<b>COURSE : DENTAL ANATOMY &amp; HISTOLOGY</b>	
<b>CO 1</b>	Student would be able to understand the anatomy and histologic aspects of teeth and orofacial structures.
<b>CO 2</b>	Student would be able to correlate the knowledge of histology and embryology to the functional aspects of oral and para oral structures.
<b>CO 3</b>	Student would be able to identify deciduous and permanent dentition and estimate the age by patterns of teeth eruption from plaster casts of different age groups.
<b>CO 4</b>	Student would acquire the skill to prepare ground sections and would be able to understand the steps of tissue processing and staining and be able to identify histological slides of oral tissues.
<b>CO 5</b>	Students would be able to simulate natural dentition by acquiring the skill to carve life-size teeth on wax models and know about the various aspects of teeth.

<b>COURSE : PRE-CLINICAL CONSERVATIVE DENTISTRY</b>	
<b>CO 1</b>	Students would have the knowledge & understanding of rotary and hand instruments , tooth numbering systems , the fundamentals & various types of tooth preparation, methods of isolation & pulp protection.
<b>CO 2</b>	Students would be able to apply the knowledge regarding identification & usage of instruments and materials to perform restorative procedures with proper contact & contour (as applicable) on typhodont / natural extracted teeth.
<b>CO 3</b>	Students would be able to analyze and perform the restorative procedures on typhodont / natural extracted teeth based on types and extent of carious and non carious tooth defect.
<b>CO 4</b>	Students would be able to evaluate the quality & identify the defects committed during restorative procedures.
<b>CO 5</b>	Students would be able to differentiate between access cavity, direct and indirect restorations.

<b>COURSE : PRE-CLINICAL PROSTHETICS</b>	
<b>CO 1</b>	To be able to understand different denture bearing areas and apply that knowledge for the purpose of preclinical impression making.
<b>CO 2</b>	To be able to understand anatomy and physiology of the stomatognathic system and apply the knowledge for fabrication of preclinical record bases
<b>CO 3</b>	To able to understand the parts and function of articulators and articulate preclinical models in different jaw relations
<b>CO 4</b>	To able to select and arrange tooth in Class 1 Occlusion for complete denture and removable partial dentures.
<b>CO 5</b>	To able to perform laboratory procedures resulting in creation of preclinical complete and removable partial dentures.

<b>COURSE : GENERAL MEDICINE</b>	
<b>CO 1</b>	Understanding the epidemiological profile , pathophysiologic basis and signs & symptoms of diseases with their required investigation and management.
<b>CO 2</b>	Competently interview and examine a patient to make a rational clinical diagnosis by ordering and interpreting necessary laboratory tests.
<b>CO 3</b>	Initiate appropriate cost-effective treatment based on an understanding the rationale of drug prescriptions , medical interventions required and preventive measures.
<b>CO 4</b>	Manage common medical emergencies and independently perform common medical procedures with emphasis on patient safety issues.
<b>CO 5</b>	Communicate effectively , educate and council the patient and their family for the disease process with goal to support the national preventive health policies and initiatives.

<b>COURSE : GENERAL SURGERY</b>	
<b>CO 1</b>	Understand the anatomical and pathological basis including the basic principles of diagnosis and management of common surgical problems in adults and children
<b>CO 2</b>	Ability to choose , calculate and administer appropriately intramuscular and intravenous fluids , electrolytes , medications , blood and blood products based on the clinical condition.
<b>CO 3</b>	Ability to apply the principals of asepsis sterilisation and disinfection with rational use of antibiotics for prophylaxis & therapeutics in surgical practice.
<b>CO 4</b>	Ability to perform common diagnostic and surgical procedures at the primary care level including the ability to recognise resuscitate and provide basic life support to patients following trauma or in medical emergency.
<b>CO 5</b>	Ability to counsel patient prior to surgical procedure and prevention of surgical pathology including recording informed consent

<b>COURSE : ORAL &amp; MAXILLOFACIAL PATHOLOGY</b>	
<b>CO 1</b>	Students would be able to understand the different types of pathological processes that involve the oral cavity.
<b>CO 2</b>	Students would be able to identify the maxillofacial disease process and correlate with their systemic manifestations & laboratory findings.
<b>CO 3</b>	Students would be able to understand the etiopathogenesis , clinical radiological and histological features including deducing treatment plan and differential diagnosis of oral lesions.
<b>CO 4</b>	Students would be able to understand the basic aspects of oral biopsy, cytology and advanced diagnostic modalities and appraise their application in detection of oral pre cancer and cancer.
<b>CO 5</b>	The students would be able to develop basic knowledge of forensic odontology and oral research outlook and would be able to apply its knowledge to design and write short research studies and case reports.

<b>COURSE : ORAL MEDICINE &amp; RADIOLOGY</b>	
<b>CO 1</b>	Would be able to diagnose simple hard tissue lesions, pulp and periapical lesions, identify precancerous and cancerous lesions of the oral cavity and refer to the concerned speciality for its management.
<b>CO 2</b>	Would have adequate knowledge about common laboratory investigations required to diagnose oral diseases and interpret the results of the said investigations.
<b>CO 3</b>	Would have adequate knowledge about medical complications that can arise while treating systemically compromised patients and take prior precautions and consent from the concerned medical specialist.
<b>CO 4</b>	Would have adequate knowledge about radiation health hazards, radiations safety and demonstrate competence to take intra-oral radiographs and interpret their radiographic findings.
<b>CO 5</b>	Would gain adequate knowledge and understanding of various extra-oral radiographic procedures , TMJ radiography and sialography.
<b>CO 6</b>	Would be aware of the importance of intra and extra oral radiographs in forensic identification and age estimation and be familiar with jurisprudence, ethics and understanding the significance of dental records with respect to law.

<b>COURSE : ORAL &amp; MAXILLOFACIAL SURGERY</b>	
<b>CO 1</b>	Ability to remember and understand the anatomical , physiological , pathological basis of oral and maxillofacial diseases including the applicable medical and surgical aspects.
<b>CO 2</b>	Ability to apply the theoretical knowledge to differentially diagnose the various oral and maxillofacial diseases using various investigative modalities.
<b>CO 3</b>	Ability to apply his/her knowledge in formulating an effective treatment plan for the patient considering medical , ethical and surgical guidelines.
<b>CO 4</b>	Ability to perform minor oral surgical procedures with proper anesthesia and asepsis and managing common medical and surgical emergencies prevalent in contemporary clinical practice.
<b>CO 5</b>	Ability to evaluate the effectiveness of his/her treatment plan and assess the resulting complications and learn to prevent them.

<b>COURSE : CONSERVATIVE DENTISTRY &amp; ENDODONTICS</b>	
<b>CO 1</b>	Students would have the knowledge and understanding of diseases of the teeth , pulp and periapex and their associated diagnosis , material science , instrumentation and restorative procedures.
<b>CO 2</b>	Students would be able to apply his theoretical knowledge in a clinical scenario to arrive at a restorative and/or endodontic diagnosis using appropriate investigative procedures.
<b>CO 3</b>	Students would be able to develop the ability to formulate an effective treatment plan with a multidisciplinary approach wherever possible.
<b>CO 4</b>	Students would be able to treat the defects and pathologies of the teeth and periapex using conventional and advanced tools and materials as applicable keeping legal jurisprudence in mind.
<b>CO 5</b>	Students would have the aptitude to identify and formulate treatment plans for esthetic rehabilitation , dental emergencies , endodontic mishaps , iatrogenic errors and dental management of medically compromised patients.

<b>COURSE : PERIODONTICS</b>	
<b>CO 1</b>	Student would be able to explain the different parts of the periodontium and understand their development and condition in health & disease.
<b>CO 2</b>	With proper application of knowledge of the subject, students would be able to identify the chief complaint of the patient to derive a correct diagnosis , plan the treatment , educate and motivate the patient.
<b>CO 3</b>	The student would be able to perform thorough oral prophylaxis, subgingival scaling, root planning , minor periodontal surgery and analyse the prognosis of the treatment.
<b>CO 4</b>	Student would be able to give treatment for proper oral hygiene as well as post operative instructions to the patient , segregate the ones requiring periodontal surgical interventions with multidisciplinary approach and perform periodic recall and evaluation.
<b>CO 5</b>	Student would have the knowledge of advanced techniques and their applications in advanced surgical approaches like laser therapy , implant therapy and oral plastic surgeries.

<b>COURSE : PROSTHODONTICS WITH CROWN &amp; BRIDGE</b>	
<b>CO 1</b>	The students would have clear understanding of the stomatognathic system and the rationale of prosthodontic treatment options.
<b>CO 2</b>	The students would be able to evaluate and diagnose different clinical situations which require prosthodontic treatment and can formulate proper treatment plan and treatment sequence.
<b>CO 3</b>	The students would be able to carry out treatment of conventional complete and partial removable dentures and fixed partial dentures.
<b>CO 4</b>	The students would be able to examine, evaluate and justify the situations which require unconventional and/or complex treatment options like implant dentistry and maxillofacial prosthesis using advanced treatment modalities.
<b>CO 5</b>	The student would have sufficient communication skills and understanding of patient psychology to perform treatment with optimum ethical considerations.



<b>COURSE : PEDODONTICS &amp; PREVENTIVE DENTISTRY</b>	
<b>CO 1</b>	Able to know the anatomical structures, physiology, development and function of orofacial structures and understand the principles of the preventive measures from birth to adolescence
<b>CO 2</b>	Able to apply his/her knowledge to obtain clinical history of the child patient , perform diet counselling, manage the child's behaviour and instil a positive dental attitude.
<b>CO 3</b>	Able to perform and interpret diagnostic modalities to formulate provisional, differential and final diagnosis with maintaining high levels of professional ethics.
<b>CO 4</b>	Able to assess different oral health conditions of children and perform treatment of dental diseases occurring in them.
<b>CO 5</b>	Able to develop the ability to spread awareness among the community, manage the physically and mentally disabled children effectively and tailor to their individual requirements and conditions using modern tools.

<b>COURSE : ORTHODONTICS &amp; DENTOFACIAL ORTHOPAEDICS</b>	
<b>CO 1</b>	The students will have a clear understanding of skeletal and dental malocclusions , biology & biomechanics of orthodontic tooth movements.
<b>CO 2</b>	The students will be able to diagnose and formulate a treatment plan for common malocclusions prevailing in the society.
<b>CO 3</b>	The students will be able to triage the orthodontic patients based on severity of malocclusion and treat minor orthodontic problems including interceptive and preventive procedures.
<b>CO 4</b>	The students will be able to motivate and explain to the patient about the existing dental condition and the need for maintenance of proper oral hygiene along with the necessity for orthodontic correction.
<b>CO 5</b>	The students will develop an attitude towards continuous learning and enhancement of knowledge as per the needs of the society.

<b>COURSE : PUBLIC HEALTH DENTISTRY</b>	
<b>CO 1</b>	Students will be able to understand the basic concepts of public health in oral and dental diseases.
<b>CO 2</b>	Students will be able to comprehend the steps of research methodology.
<b>CO 3</b>	Students will be able to evaluate oral diseases and conditions prevailing in the society and design treatment plan for the same.
<b>CO 4</b>	Students will be able to perform various preventive measures to limit or eradicate prevalent oral diseases in the society.
<b>CO 5</b>	Student will be able to identify community health related problems and design public health programs.