

**List and Steps Taken by the
College to Measure
Attainment of Specific
Competencies by the
Students/Interns Stated in the
Undergraduate Curriculum**



ARMY COLLEGE OF DENTAL SCIENCES

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NAAC Accredited 'A' & Certified ISO 9001 : 2015 & ISO 14001 : 2015

S.no.	Course	Specific Competencies	Steps taken to attain the specific competencies
1.	Anatomy	<ul style="list-style-type: none"> • To locate various structure of the body and to mark the topography of the living anatomy with special emphasis on Head and Neck region • To identify various tissues under microscope • To identify features of hard and soft tissues in radiography and modern imaging • To detect various congenital abnormalities 	<ul style="list-style-type: none"> • Demonstration • Dissection of the human cadavers • Study of the dissected specimens • To regularly demonstrate the tissues under microscope • OSPE
2.	Physiology	<ul style="list-style-type: none"> • Conduct experiments designed for the study of physiological phenomenon • Interpret experiment and investigate data • Distinguish between normal and abnormal data derived as a result of test which he/she has performed and observed in the laboratory 	<ul style="list-style-type: none"> • Enumeration of the red blood cells • Enumeration of the white blood cells • Differential leucocyte counts • Recording of blood pressure • Determination of hemoglobin • Determination of blood groups • Determination bleeding and clotting time. • Recording of blood pressure by palpatory method • Examination of the radial pulse • Maintenance of log

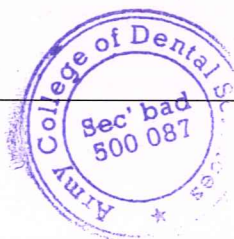



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			books
3.	Biochemistry	<ul style="list-style-type: none"> • Make use of conventional techniques /instruments to perform Biochemical analysis relevant to clinical screening and diagnosis • Analyse and interpret investigative data • Demonstrate the skills of solving scientific and clinical problems and decision making in dentistry 	<ul style="list-style-type: none"> • Qualitative analysis of carbohydrates • Identification of reducing and non-reducing sugars • Color reactions of proteins and amino acids • Normal constituents of urine- demonstration • Organic constituents • Inorganic constituents • Abnormal constituents of urine • Analysis of saliva including amylase by qualitative methods • Blood glucose estimation- god/pod method • Serum total protein estimation- biuret method • Urine creatine estimation demonstration
4.	Dental anatomy/embryology and oral histology	<ul style="list-style-type: none"> • Able to carve and reproduce the morphology of human permanent teeth on wax blocks • Able to identify different oral hard tissues in clinical situations • Able to differentiate normal from abnormal and diseased states • Able to identify various types of human teeth based on their morphology • Able to appreciate influence of age gender and race on oral and para-oral structures • Able to locate the different 	<ul style="list-style-type: none"> • Drawing and wax carving of permanent tooth • Microscopic study of tooth germ, enamel, dentin, pulp, periodontal ligament, alveolar bone, salivary gland, oral mucosa including papillae of tongue and taste bud.

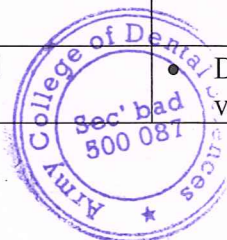


		<p>areas and surfaces of the teeth</p> <ul style="list-style-type: none"> • Able to understand the implication of the disease process and aging on normal oral structures • Able to appreciate the eruption and shedding pattern of human teeth • Able to appreciate and integrate the concept of occlusion, range of human jaw movements in preclinical and clinical situations • Able to use effectively the terminologies and anatomical terms for clinical and patient communications 	
5.	General pathology	<ul style="list-style-type: none"> • A dental graduate should be able to identify abnormal diseases like tumor, non-tumors and also to arrive what are the investigations needed for the diagnosis of the disease. • Carry out certain investigations and ability to interpret lab findings 	<ul style="list-style-type: none"> • Urine-tests for abnormal constituents' sugar, albumin, ketone bodies blood bile salts bile pigments OSPE: • Hemoglobin estimation • Total WBC count from peripheral smear • Differential WBC count and commenting on the peripheral smear • Blood grouping
6. 6.	Microbiology	<ul style="list-style-type: none"> • Students should have acquired the skill to diagnose, differentiate various oral lesions • Should be able to select, collect and transport clinical specimens to the laboratory • Should be able to carry out proper aseptic procedures in the dental clinic • Interpretation of antimicrobial susceptibility tests and to make right choice of antibiotics- based on spectrum of infection and 	<ul style="list-style-type: none"> • Microscopy- different types, parts, maintenance and usage OSPE • Gram staining • Ziel Nielson staining for Mycobacterium tuberculosis • Hand washing techniques • Biomedical waste segregation



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		ensure appropriate use to avoid antibiotic resistance	
7.	General pharmacology	<ul style="list-style-type: none"> • Prescribe drugs for common medical and dental ailments • Appreciate adverse reactions and drug interactions of commonly used drugs • Observe experiments designed for study of effect of drugs • Critically evaluate drug formulations and be able to interpret the clinical pharmacology of marketed preparations commonly used in dentistry. 	<ul style="list-style-type: none"> • OSPE • Preparation of tooth paste • Preparation of tooth powder • Writing of prescription
8.	Dental materials	<ul style="list-style-type: none"> • A graduate should be able to demonstrate the following skills necessary for practice of dentistry. To develop skills in the management of various materials in dentistry. Students should know the physical and chemical properties of the dental materials. 	<ul style="list-style-type: none"> • Manipulation of gypsum • Self-cure and heat cure acrylic resin manipulation and curing • Cements-manipulations and studying setting time • Silver amalgam-manipulation, trituration
9.	Pre-clinical conservative dentistry	<ul style="list-style-type: none"> • Students should be able to demonstrate the following skills which are necessary for practice in conservative dentistry • To develop skills in manipulation of various materials used in conservative dentistry • To develop skills in preparation of various cavities • To perform various restorative procedures 	<ul style="list-style-type: none"> • Cavity preparation • Restoration of tooth • Base and matrix • Restoration and finishing
10.	Preclinical	<ul style="list-style-type: none"> • Diagnosis and manage various common dental 	<ul style="list-style-type: none"> • Preparation of special trays



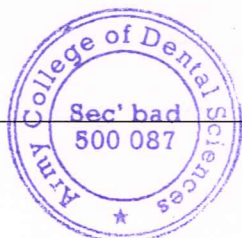
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	prosthodontics and crown and bridges	<p>problems encountered in general dental practice keeping in mind the expectations and the right of the society to receive the best possible treatment available wherever possible.</p> <ul style="list-style-type: none"> • Prevent and manage complications if encountered while carrying out various surgical and other procedures • Carry out certain investigative procedures and ability to interpret laboratory findings • Promote oral health and help prevent oral disease where possible • Control pain and anxiety among the patients during dental treatment. 	<ul style="list-style-type: none"> • Preparation of temporary and permanent denture bases • Preparation of occlusal rims • Orientation of occlusal rims on articulator • Arrangement of teeth • Processing of complete dentures
11.	General medicine	<ul style="list-style-type: none"> • Take a proper history from the patient • Do a complete general physical examination include build and nourishment • Assess the vitals- recording BP, pulse temperature, checking capillary blood glucose and oxygen saturation • Look for cyanosis, clubbing, pallor, icterus, pedal edema, lymphadenopathy, rashes, ecchymosis • Able to examine CVS, RS, abdomen and the facial nerve • Interpret the elicited signs and symptoms of various systemic disease process • Interpreting lab reports such as importance of CBC,RFT,BT,CT,PT,INR etc • To be trained in simple procedure such as giving intramuscular intravenous 	<ul style="list-style-type: none"> • System wise case presentation • General physical examination and Auscultation • Demonstration of clinical signs • Small group discussion of clinical manifestations, diagnosis, differential diagnosis, investigations and treatment




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		<p>injection as well as stating an iv line</p> <ul style="list-style-type: none"> • To be trained in basic life support • Writing prescriptions 	
12.	Conservative dentistry and endodontics	<ul style="list-style-type: none"> • Competent to diagnose all carious lesions • Competent to perform class I class II cavities and their restoration with amalgam • Restore class V and class III Cavities with glass ionomer cement • Able to diagnose and appropriately treat pulpally involved teeth (pulp capping procedures) • Able to perform RCT for anterior teeth • Competent to carry out small composite restorations • Understand the principles of aesthetic dental procedure 	<ul style="list-style-type: none"> • Class I amalgam restoration • Class II amalgam restoration • Class III and V - composite and GIC restoration • Class IV - composite • Deep caries management • Endodontic cases • Acrylic jacket crowns
13.	Oral and maxillofacial surgery	<ul style="list-style-type: none"> • Able to apply the knowledge gained in the basic medical and clinical subjects in the management of patients with surgical problems • Able to diagnose, manage and treat patients with basic oral surgical problems • Have a broad knowledge of maxillofacial surgery and oral implantology • Should be familiar with legal, ethical and moral issues pertaining to patient care and communication skills • Should 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. 	<ul style="list-style-type: none"> • Recording of case history • Dental extraction under local anesthesia • Assisting of oral surgery procedures




		<ul style="list-style-type: none"> • Should be competent in the extraction of the teeth under both local and general anaesthesia • Competent to carry out certain minor oral surgical procedure under LA like trans alveolar extraction, frenectomy, dento-alveolar procedures, impaction and biopsy etc • Competent to asses, prevent and manage common complications that arise during and after minor oral surgery • Able to provide primary care and manage medical emergencies in dental office • Familiar with the management of major oral surgical problems and principles involved in the patient management 	
14.	Orthodontics and dentofacial orthopedics	<ul style="list-style-type: none"> • Understand about normal growth and development of facial skeleton and dentition • Pinpoint aberrations in growth process both dental and skeletal and plan necessary treatment • Diagnose the various malocclusion categories • Able to motivate and explain to the patient (and parent) about the necessity of treatment • Plan and execute preventive orthodontics (space maintainers or space regains) • Plan and execute interceptive orthodontics (habit breaking appliances) • Manage treatment of simple malocclusion such as 	<ul style="list-style-type: none"> • Wire bending exercise s • Study model • Cephalometric exercises • Case sheet recording • Clinical work - orthodontic appliances



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		<p>anterior spacing using removable appliances</p> <ul style="list-style-type: none"> • Handle delivery and activation of removable orthodontic appliances • Diagnose and appropriately refer patients with complex malocclusion to the specialist 	
15.	Pediatric and preventive dentistry	<ul style="list-style-type: none"> • 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 • Able to guide and counsel the parents in regards to various treatment modalities including different facets of preventive dentistry • Able to treat dental diseases occurring in child patient Who department • Able to manage the physically and mentally challenged disabled children effectively and efficiently, tailored to the needs of individual requirement and conditions 	<ul style="list-style-type: none"> • Case sheet recording • Restoration • Extraction • Scaling
16.	Periodontology	<ul style="list-style-type: none"> • Diagnose the patients periodontal problem, plan and perform appropriate periodontal treatment • Competent to educate and motivate the patient • Competent to educate and motivate the patient • Competent to perform thorough oral prophylaxis, sub-gingival scaling, root planing and minor periodontal surgical procedures 	<ul style="list-style-type: none"> • Case history recording • Scaling • Assisting surgical procedures




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		<ul style="list-style-type: none"> • Give proper post treatment instructions and do periodic recall and evaluation • Familiar with concepts of osseointegration and basic surgical aspects of implantology • 	
17.	Prosthodontics and crown and bridges	<ul style="list-style-type: none"> • Able to understand and use various dental materials • Competent to carry out treatment of conventional complete and partial removable dentures and fabricate fixed partial dentures • Able to carry out treatment of routine prosthodontic procedures • Familiar with the concept of osseointegration and the value of implant-supported prosthodontic procedures • 	<ul style="list-style-type: none"> • Complete denture • Removable partial denture • Fixed partial denture




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