

BDS CURRICULUM

Introduction

With increasing update in dental science and public expectations about their health care services, the quality of dental care itself is under scrutiny all over the world. Therefore, a positive change is needed in the role of dental educator, the students and the role of dental practitioners also need to be reviewed and further developed.

This new curriculum has been developed and scientifically designed, in response to the international standards and the community needs. The present curriculum with its assessment methods is expected to effectively judge competencies acquired with competencies required to cater the health need of our community. It is gratifying to note that all concerned in medical and dental education as well as the promotor of health science in the country have involved themselves in the planning and formulation of this need-based curriculum.

Subjects like behavioral science including communication skill, dental health problem management have been given the required emphasis in this document. Though curriculum is not the sole determinant of the outcome, yet it is very important as it guides the faculty in preparing their instruction, tells the students where to go, what to do and what knowledge, skills and attitude they are to develop. The ultimate criterion of measuring curriculum in dental education is the standard and quality of oral and dental health care services provided by the graduates with required competencies in preventive promotive, curative and rehabilitative management.

Mission

The Faculty vision is to become one of the best Factualists of oral and dental Medicine in Sudan& Aria& Middle East.

Vision:

The Faculty of oral & dental Medicine in Elrazi University is committed to prepare graduates well equipped with the last century skills & be able to compete in the job market and conduct research that leads to imparting community environment & achieving prosperity .

Curriculum Model

Hybrid, blended integrated and disciplined-based type

Name of the Degree:

Bachelor of Dental Surgery (BDS).

Duration and phases of the Degree:

Five Years of 10 semesters

3 phases

Phase 1- Basic science and basic medical science

Scientific Foundation “semesters 1 – 4) consists of subjects common to medicine and dentistry, progressing from biomedical and basic medical sciences, through behavioral sciences, epidemiology, pathology and microbiology to human disease.

Phase 2- Preclinical

Preclinical linked to clinical skill Development “semesters 5 – 6”) includes oral and dental aspects of the biological sciences leading to an understanding of the diagnosis, prevention and treatment of oral and dental diseases and disorders and the effects of systemic disease on the oral and dental tissues.

Phase 3 - Clinical

Clinical Competences Acquirement “semesters 6 – 10”) consists of the clinical and technical aspects of dentistry with the provision of comprehensive oral and dental healthcare for patients of all ages. These components are vertically integrated with a larger proportion of basic sciences at first and a larger clinical component at the end.

Methods of Instruction

Interactive lectures

Small group teaching

Problem Based Learning

Seminars

Practical

Clinical Competences

Methods of Assessment:

1-Diagnostic

2-Formative

3-Summative C.A 20 %+ 80%Final Examination

Curriculum Committee:

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Dr. Abdelmalik Mahdi

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Dr. Bakry Gobara

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Dr. Magda Motwkil

Dr. Mona Khalil

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Curriculum Management

To insure an effective administrative mechanism that is capable of directing and supervising the formulation, implementation, evaluation and development of the curriculum, the following administrative bodies share the supervision of all of the curriculum activities:

1. Curriculum committee.
2. Phase committees.
3. Semester, block and course committees
4. Examinations/evaluation committee.
5. Quality assurance committee
6. Student representing committee
7. Departmental boards
8. Faculty board

Learning out Comes:

The learning out comes shall covers the following:

(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, principles of biological functions and should be able to evaluate and analyze scientifically various established facts and data.
2. Adequate knowledge of the development, structure and function of the teeth, mouth and jaws and associated tissues both in health and disease and their relationship and effect on general-state of health and also the bearing on physical and social well-being of the patient.
3. Adequate knowledge of clinical disciplines and methods, which provide a coherent picture of anomalies, lesions and diseases of the teeth, mouth and jaws and preventive, diagnostic and therapeutic aspects of dentistry.
4. Adequate clinical experience required for general dental practice.
5. Adequate knowledge of biological function and behavior of persons in health and sickness as well as the influence of the natural and social environment on the state of health so far as it affects dentistry.
6. Understand about normal growth and development of facial skeleton and dentition.
7. Have a broad knowledge of maxillofacial surgery and oral Implantology.
- 8- Have knowledge of community based preventive measures Have knowledge of the social, cultural and environmental factors, which contribute to health or illness.
- 9- 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

(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 possible treatment available wherever possible.
2. Acquire skill to prevent and manage complications if 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. Promote oral health and help to prevent oral diseases wherever possible.
5. Competent in control of pain and anxiety during dental treatment.
6. Be able to identify the common dental problems like Dental Caries and Periodontal Disease and their sequelae
7. Be able to differentiate the normal variations and oral mucosal lesions
8. Be able to identify pre cancerous and cancerous lesions of the oral cavity and refer to the concerned specialty for their management.
9. Have an adequate knowledge about common laboratory investigations and interpretation of their results.
10. Have adequate knowledge about medical complications that can arise while treating systemically compromised patients and take prior precautions/ consent from the concerned medical specialist.
11. 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.
12. Have adequate knowledge about radiation health hazards, radiation safety and protection.
13. Be competent to take intra-oral radiographs and interpret the radiographic findings
14. Gain adequate knowledge of various extra-oral radiographic procedures, TMJ radiography and sialography.
15. Be aware of the importance of intra- and extra-oral radiographs in forensic identification and age estimation.
16. Be familiar with jurisprudence, ethics and understand the significance of dental records with respect to law.

17. Be able to diagnose, manage and treat patients with basic oral surgical problem
18. Be familiar and communication skills.
18. Have acquired the skill to examine any patient with an oral surgical problem in an orderly manner.
19. Understand and practice the basic principles of asepsis and sterilization.
20. Be competent in the extraction of the teeth under both local and general 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.
- 21-Be able to diagnose the patient's periodontal problem, plan and perform appropriate periodontal treatment. 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.
- 22-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
- 23-Be able to pinpoint aberrations in growth process both dental and skeletal and plan necessary treatment
- 24-Be able to diagnose the various malocclusion categories
- 25-Be able to motivate and explain to the patient and parent/guardian about the necessity of treatment
- 26-Be able to plan and execute preventive orthodontics (space maintainers or space regainers)
- 27-Be able to plan and execute interceptive orthodontics (habit breaking appliances)
- 28-Be able to manage treatment of simple malocclusion such as anterior spacing using removable appliances
- 29-Be able to handle delivery and activation of removable orthodontic/myofacial appliances.
- 30-Be able to diagnose and appropriately refer patients with complex malocclusion to the specialist.
- 31- Apply the principles of health promotion and disease prevention.
- 33--Be able to administer hygiene instructions, topical fluoride therapy and fissure sealing.
- 34-Be able to educate patients concerning the etiology and prevention of oral disease and encourage them to assure responsibility for their oral health.
- 35- Be able to understand and use various dental materials. Be competent to carry out treatment of conventional complete and partial removable dentures and full veneer crowns. Be able to carry out treatment of routine Prosthodontic procedures. Be familiar with the concepts of osteointegration and the value of implant-supported Prosthodontic procedures.
- 36- Be able to treat dental diseases occurring in child patient.
- 37-Be able to manage the physically and mentally challenged / disabled children effectively and efficiently, tailored to the needs of individual requirement and conditions.

(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.

BDS Curriculum Outline

Semester 1			Semester 2		
Code/No	Courses	Credit Hr.	Code/No	Courses	Credit Hr.
BDS 0111	Biology: Cells & molecules	2+1=3	BDS0121	Bioinformatics	1+1=2
BDS 0112	Chemistry	2+1=3	BDS0122	Anatomy I	2+2=4
BDS0113	Physics& Mathematics	2+1=3	BDS0123	Biochemistry I	2+1=3
BDS 0114	English Language	2	BDS0124	Physiology I	2+1=3
BDS0115	Computer Science	2	BDS0125	Dental morphology	2+1=3
BDS0116	Sudanese Culture	2	BDS0126	English Language	2
BDS0117	Arabic Language	2	BDS0127	Arabic Language	2
BDS0118	Islamic studies	2	BDS0128	Islamic studies	2
	Total	19	Total		21
Semester 3			Semester 4		
BDS 0231	Anatomy II	2+1=3	BDS0241	Dental material Science	2+1=3
BDS 0232	Behavioral Science	2+1=3	BDS0242	General pathology	2+1=3
BDS 0233	Physiology II	2+1=3	BDS0243	Oral Biology	2+1=3
BDS 0234	Head& Neck Anatomy	2+1=3	BDS0244	Microbiology I	2+1=3
BDS 0235	Biochemistry & Nutrition	2+1=3	BDS0245	Dental Pathology& Forensic Odontology	2+1=3
BDS0236	Neuroscience	3+1=4	BDS0246	Pharmacology	2+1=3
	Total	19	Total		18
Semester 5			Semester 6		
BDS 0351	Systemic Pathology II	2+1=3	BDS 0361	Oral pathology II	2+1=3
BDS 0352	Microbiology II	2+1=3	BDS 0362	Preclinical Peadiatric Dentistry	1+1=2
BDS 0353	Oral Pathology I	2+1=3	BDS 0363	Preclinical Periodontology	1+1=2
BDS 0354	Preclinical Conservative Dentistry	1+1=2	BDS 0364	Preclinical Endodontics	1+1=2
BDS 0355	Preclinical Removable Prosthodontic.	2+1=3	BDS 0365	Removable Prosthodontics I د/مني	2+1=3
BDS 0356	Preclinical Oral Surgery	1+1=2	BDS 0366	Oral surgery	2+1=3
BDS0357	Dental Radiology	1+1=2	BDS 0367	Restorative Dentistry I	1+1=2
BDS0358	Professionalism& communication skills	2	BDS 0368	Preclinical Fixed prosthodontics	1+1=2
	Total	20	Total		19
Semester 7			Semester 8		
BDS 0471	O&MF surgery I	2+1=3	BDS 0481	O&MF surgery II	2+1=3
BDS 0472	General Medicine I	1+1=2	BDS 0482	Basic clinical skills	1+1=2
BDS0 473	General Surgery I	1+1=2	BDS 0483	General Surgery	1+1=2

BDS 0474	Restorative Dentistry II	1+1=2	BDS 0484	Endodontics I	1+1=2
BDS 0475	Periodontology I	1+1=2	BDS 0485	Periodontology II	1+1=2
BDS 0476	Removable prosthodontics II	1+1=2	BDS 0486	Removable prosthodontics III	1+1=2
BDS 0477	Fixed prosthodontics I	1+1=2	BDS 0487	Fixed prosthodontics II	1+1=2
BDS 0478	Orthodontics I	1+1=2	BDS 0488	Orthodontics II	1+1=2
BDS 0479	Paediatric Dentistry I	1+1=2	BDS 0489	Paediatric Dentistry II	2+1=3
3BDS 4710	Community Dentistry & Research Methodology	2+1=3	BDS 4810	Dental Public health & Epidemiology	1+1=2
	Total	22		Total	22
Semester 9			Semester 10		
BDS 0591	O&MF surgery III م/يوسف	2+1=3			
BDS 0592	Oral Medicine & Radiology	1+1=2	BDS 5101	Integrated Oral Rehabilitation	3+3=6
BDS 0593	Restorative Dentistry III	1+1=2	BDS 5102	Comprehensive Oral and Maxillofacial surgery	2+2=4
BDS 0594	Endodontics II	1+1=2	BDS 5103	Comprehensive Orthodontic & Paediatric dentistry	2+3=5
BDS 0595	Periodontology III	1+1=2	BDS 5103	Total Patient Care	0+4=4
BDS 0596	Removable prosthodontic III	1+1=2			
BDS 0597	Fixed prosthodontics II	1+1=2			
BDS 0598	Paediatric Dentistry III	1+1=2			
BDS 0599	Orthodontics III	1+1=2			
	Total	19		Total	19

Semester 1:

Module title	Biology :Cells &molecules			
Credit hours	3			
Coordinating department	Department of basic science			-
Description	This course Investigates animal and plant structure and function. Emphasizes homeostasis, nutrition, and elements of the reproductive, internal transport, gas exchange, and defense systems in both animals and plant. Investigates cell structure, cell division, Mendelian genetics, and principles of evolution. Introduces modern techniques in biotechnology and discusses their ethical implications.			
Learning objectives	<p>upon completion of this course, this student must be able to</p> <p>Identify the basics of the philosophy of science, the rational reasoning and how to develop a scientific observation into a hypothesis.</p> <p>Identify the basics of classification and specially the differences between vertebrates and invertebrates.</p> <p>Identify the different orders of biological organization and to recognize the main characteristics of the muscles , bones and cartilages from histological perspective.</p> <p>Numerates the differences between prokaryotic and eukaryotic cells</p> <p>Identify the cell membrane and the subcellular organelles with details in their structure and function.</p> <p>Identify the cell cycle, its regulation and its characteristics.</p> <p>Recognize the mitotic and meiotic division and their characteristics and differences</p> <p>Identify the basis of genetics: the alleles, mendelian pattern of inheritance and the chromosomes</p> <p>Identify the basic morphological and environmental characteristics of bacteria.</p> <p>Identify the basic morphological and environmental characteristics of viruses.</p>			
content				
Week number	Session title	Objectives	Session title	Objectives
1	Philosophy of science: Introduction,	Heisenberg concept of uncertainty, the idealism. the rational reasoning	Introduction to biology, the practical sessions	Practical session
	The scientific observation	Observation and testing of Hypothesis	Scientific drawing and how to use microscope	practical
2	deduction and the design of hypothesis. induction testing of hypothesis	Identify the basics of the philosophy of science	How to formulate a hypothesis	practical
3	Classification and taxonomy	Identify the basics of classification	Identify the basics of classification and identification of different species	Practical

4	Principles of animal development: organization : organs and systems	Living tissue formation	Vertebrates and invertebrates	Vertebrates and invertebrates
	Principles of animal development: Tissues	Process of development	Animal tissues: muscles, ligaments and cartilages	Animal tissues: muscles, ligaments and cartilages
5	The cell, the differences between prokaryotic and eukaryotic cell	Microscopical structure of the cell	Animal tissues: bone and teeth	Animal tissues: bone and teeth
	The cell : the cell membrane, the nucleus	Function of cell membrane	Differences between prokaryotic and eukaryotic cells	Differences between prokaryotic and eukaryotic cells
6	The cell: the mitochondria and the endoplasmic reticulum	Organelles detection	Using electron microscope: identification of mitochondria and the endoplasmic reticulum	Using electron microscope: identification of mitochondria and the endoplasmic reticulum
	The cell: the ribosomes and Golgi apparatus	Organelles functions	Using electron microscope: identification of the ribosomes and Golgi apparatus.	Using electron microscope: identification of the ribosomes and Golgi apparatus.
7	Cell division: the cell cycle and mitosis	Understanding of genetical bases	the cell division I	the cell division I
	Cell division: meiosis , recombination and crossing over differences between mitosis and meiosis	Understanding of genetical bases	The cell division II	The cell division II

8	Genetics: the chromosomes , the gametes and alleles	Genetical process	Genetics: the chromosomes	Genetics: the chromosomes
	Introduction to bacteriology: Gram+ cocci and bacilli	Mode of infections	Microscopic examination of Gramm + bacteria	Microscopic examination of Gramm + bacteria
9			Microscopic examination of Gramm - Bacteria	Microscopic examination of Gramm - Bacteria
	Introduction to virology: DNA viruses and retroviruses	DNA& hereditary diseases	The viruses: electron microscopic assessment	The viruses: electron microscopic assessment
10	Principles of animal development: organization : organs and systems	Understand Process of development	Vertebrates and invertebrates	Vertebrates and invertebrates
	Principles of animal development: Tissues	Understand Process of development	Animal tissues: muscles, ligaments and cartilages	Animal tissues: muscles, ligaments and cartilages
11	The cell, the differences between prokaryotic and eukaryotic cell	Boundaries Action, Blood supply Cubital fossa	Animal tissues: bone and teeth	Animal tissues: bone and teeth
			Differences between prokaryotic and eukaryotic cells	Differences between prokaryotic and eukaryotic cells
12	Genetics: the chromosomes , the gametes and alleles	Understanding of genetical bases	Using electron microscope: identification of mitochondria and the endoplasmic reticulum	Using electron microscope: identification of mitochondria and the endoplasmic reticulum
		Understanding of genetics	Using electron microscope: identification of the ribosomes	Using electron microscope: identification of the

			and Golgi apparatus.	ribosomes and Golgi apparatus.
13	Introduction to bacteriology: Gram+ cocci and bacilli	Understanding of genetical bases	the cell division I	the cell division I
		Understanding of genetics	The cell division II	The cell division II
14			Genetics : the chromosomes	Genetics: the chromosomes
			Microscopic examination of Gramm + bacteria	Microscopic examination of Gramm + bacteria
	Learning strategies	Lectures ,tutorial and practical		
	Assessment strategies	MCQs+SSA		
	Resources	S. Mader, 2016, Biology, Twelfth Edition – McGraw-Hill International Edition. بيولوجيا الحيوان العملية		

Module title		Chemistry
Credit hours		3
Coordinating department		Basic Science
<p>Description This course develops the knowledge and understanding across inorganic, physical and organic chemistry necessary for advancement to the higher levels of study in dentistry courses. Core topics include: organic structure, function & reactions, polymers & biopolymer, kinetics, self-assembly, metals, alloys and ceramics, solutions, osmosis, acid and base equilibria and biological redox chemistry</p>		
<p>Learning objectives upon completion of this course, this student must be able to</p> <ol style="list-style-type: none"> 1. Identify and categorize inorganic compound and their role in dentistry and biochemistry 2. Identify and categorize organic compound and their role in dentistry and biochemistry 3. Define hydrocarbons and their derivatives 4. Define carboxylic acids and their derivatives 5. Differentiate between the various chemical bonds 6. Define osmolality and able to perform basic osmolality and osmolarity calculations 7. Understand the basic concepts of thermodynamics and their reactions, energetics, redox reactions and electrochemical reactions 8. Enumerate the chemical properties of lipids in general and fatty acids in particular. 9. Enumerate the chemical properties of carbohydrates <p>upon completion of this course, this student must be able to</p> <ol style="list-style-type: none"> 1. Identify and categorize inorganic compound and their role in dentistry and biochemistry 2. Identify and categorize organic compound and their role in dentistry and biochemistry 3. Define hydrocarbons and their derivatives 4. Define carboxylic acids and their derivatives 5. Differentiate between the various chemical bonds 6. Define osmolality and able to perform basic osmolality and osmolarity calculations 7. Understand the basic concepts of thermodynamics and their reactions, energetics, redox reactions and electrochemical reactions 8. Enumerate the chemical properties of lipids in general and fatty acids in particular. 9. Enumerate the chemical properties of carbohydrates 		
Week number	Theoretical Session title	Practical Session title
1	elements and inorganic compound for biochemistry and dentistry (chemical characteristics)	Dental plaster and casting
	elements and inorganic compound for biochemistry and dentistry(amalgam and metal alloys)	Analysis of Amalgam and dental cement
2	elements and inorganic compound for biochemistry and dentistry (polymers and cements)	Acid base titration, titration curve
3	Organic chemistry : stereochemistry, structure and the classification of organic compounds	Buffers and buffering capacity,

4	Hydrocarbons and their derivatives	Proteins precipitation
	Carboxylic acids and their derivatives	Titration
5	Chemical bond, water, solution, dissolution. Chemical activity, dissociation, ionic strength, colloids. Diffusion,	Titration
6	Osmolality and Osmolarity	Titration
7	Acids and base, P ^H , buffers and neutralization.	Titration
8	Thermodynamics, chemical equilibrium, chemical kinetics, catalysts	Electrochemical cells in the mouth
9	Redox reactions and basics of electrochemistry. Electrochemical cells and galvanism.	Energetic compounds in human body
10	Energetics of chemical reactions	Stoichiometric calculations
11	Heterocyclic compound and their derivatives. Alkaloids	Electrochemical cells in the mouth
12	Structure and properties of lipids, fatty acids.	Energetic compounds in human body
13	Chemical properties of Saccharides and polysaccharides	
14	Consultation and revision	
	Learning strategies Lectures to explain underlying principles. - Tutorials to help in understanding these principles. - Lab to apply those principles practically.	
	Assessment strategies MCQ+SSA+ Practical	
	Resources	

Module title		Physics & Mathematics
Credit hours		3
Coordinating department		Department of Basic Science
Description This course is in simple terms describe physics concepts, theories and methods to medicine and health care, as well as dental tissues and the properties of the dental materials. This is extremely important to understand the application of the armamentarium used in the medical and dental practice, as well as using mathematical concepts and language in the natural sciences to help to explain a system and to study the effects of different components, and to make predictions about behavior.		
Learning objectives : upon completion of this course, this student must be able to 1. Identify the biomechanical principles of bone tissues, their models and their mechanical role in adaptation. 2. Identify the biomechanical principles of periodontal ligaments and their models in physics. Identify the basic mechanics of materials, their models, and the concept of balanced law. Identify the physical properties of light and their role in medical practice Identify the physical properties of laser and their role in medical and dental practice. Identify the physical properties of sound and ultrasound waves and their role in medical practice define the concept of Doppler effect. Identify the physical properties of X- rays and their role in medical practice Identify the concept of nuclear medicine. Recognize the different parameters. Recognize the rate of changes for both the discrete and continuous time Identify the basics of derivatives Recognize Local behavior and linear approximation Identify the marginal value theorem and its applications in biology. Solve the first and second degree differential equations. Recognize the different types of integrals and identify their properties. Solve the integral equations.		
Week number	Session title	Seminars & practical
1	Mechanics of bone tissue: experimental testing and result	Signals from the outside: Are there aliens in the universe?
2.	Mechanics of bone tissue: Constitutive models for bone	Quantum entanglement
2.	Mechanics of bone tissue: Role of mechanics in adaptation	Quantum biology and the secrets of life
3.	Mechanics of periodontal ligaments: Constitutive models for periodontal ligaments	Schrodinger's cat

4.	Mechanics of materials: material models, deformation of continuum	Cosmotic Neurology: the synaptic cosmos of the nerve cells
5.	Mechanics of materials: the concept of stress and its measures	Relativity
6.	Optics : the science of light	Time travel
7.	Laser in medicine :	Inferences about populations
8.	Seeing with sounds: The sound and ultra sound waves	Estimating parameters for distributions
9.	Seeing with sounds: imaging and the origin of the Doppler effect	Conditional probability I
10.	X- Ray vision: the body's X- ray shadows. Types of X ray interaction with matters.	Conditional probability II
11.	Parameters: Scaling parameters, Nonlinear parameters, Bifurcation	
12.	Rates of changes for discrete Time and continuous Time. The derivatives	
13.	Local behavior and linear approximation	
14.	Optimization: the marginal value theorem	
15.	Related rates I: differential equations, the chain rule	
16.	Related rates II: differential equations, the chain rule	
17.	Accumulation and the definite integral	
18.	Properties of definite integral: the fundamental theorem of calculus	
19.	Mathematics in biology: the biological data, overall patterns in a random world, determining relationship	
	Learning strategies : lectures/seminars& practicals	
	Assessment strategies : MCQ, SSA& PRACTICAL	
	Resources Physics in modern medicine : Author: Suzanne Amador Kane Dental biomechanics : Author : Arturo N Natali mathematics for the life sciences Author : Glenn Ledder	

Module title: English Language	
Credit hours: 2	
Coordinating department: university Requirement	
Description : this course enable the student to communicate and understand the medical terms as well as he can study and search in English	
Learning objectives This course is designed to enable the student to be able to: <ul style="list-style-type: none"> • Study and communicate easily in English • Translate from Arabic to English and vice versa. • Improve his/her linguistic skills relevant to dental sciences in writing, listening and speaking. • Know some aspects of grammar and phonetics. 	
	<p>Contents Use of library, references and language dictionaries – English grammar – number – subject and verb – passive voice – connective articles – relative sentences – relative pronouns. Improve his/her linguistic skills relevant to dental sciences in writing, listening and speaking. Use of library, references and language dictionaries – English grammar – number – subject and verb – passive voice – connective articles – relative sentences – relative pronouns. Use of library, references and language dictionaries – English grammar – number – subject and verb – passive voice – connective articles – relative sentences – relative pronouns. . Writing and reading skills – conversation skills – discussion and dialogue skills – translation in dental – English grammar and phonetics</p>
	Learning strategies : lectures& seminars
	Assessment strategies SSA& MCQ
	Resources

Module title Computer Science	
Credit hours 2	
Coordinating department . Basic Science	
Description It is the systematic study of the feasibility, structure, expression, and mechanization of the methodical processes (or algorithms) that underlie the acquisition, representation, processing, storage, communication of, and access to information, whether such information is encoded in bits and bytes in a computer memory or transcribed in genes and protein structures in a human cell	
Learning objectives By the end of this course the students should be able to: a) Define the basic terminology of computer science and application relevant to health science education. To provide student with basic knowledge regarding operation of computer. b) To equip student with general concepts of statistics, data collection, sampling principles, graphical techniques for data display. b	
Week number	Session title
1.	Recognition of the individual components of the big picture of computer.
2.	Outline the basic computer configurations.
3	Cite the reasons for using a computer model and how those reasons apply to current computer systems.
4	Demonstrate software packaging methods and technique in clinical skills including patient report in history taking, clinical examination, investigation and management.

5	Identify famous programs like DOS, Word, Excel, Power Point, Access and Internet Explorer.
6	Recognize the uses of CDs is extensively covered as well as email and navigate the internet for health information.
7	Outline to access medical journal, and communicate with the scientists worldwide.
8	Discuss sampling principles. j) Collect samples. k) Discuss statistical concepts.
9	Use testing techniques.
10	Power point formation
11	e. learning
12	e. examination
13	e. assessment
14	e. communication skills
15	On line group discussion
16	Electronic data recording
	Learning strategies 1 Lectures .2 Seminars 3 Tutorials 4 Assignments 5 Small group discussion 6 Problem Solving
	Assessment strategies Attendance and performance continuous assessment Assignments Written Examination MCQs
	Resources Zelle, John M. (2003). Python Programming: An Introduction to Computer Science. 1st ed. Franklin Beedle & Associates, USA. Guttag, John. (2013). Introduction to Computation and Programming Using Python. Revised and expanded edition. MIT Press, England. 3. Samuels, Witmer, and Schaffner (2012). Statistics for the Life Sciences, 3rd edition

Module title Sudanese Culture	
Credit hours 2	
Coordinating department . University Requirement	
Description It is designed to enable student to know about Sudan history as well as the Sudanese culture and habits	
Learning objectives By the end of the course the student should: Comprehend basic social and geographic facts about Sudan. Understand the general features of Sudan history. Enhance his/her feelings on unity and solidarity and nation building. Become aware of the characteristics of the Sudanese personality. Comprehend the origin and development of the University of Khartoum, its history, goals, systems, regulations and bylaws that govern the tuition scheme and its roles in serving the Sudan enhancement of national development.	
Week number	Session title
1.	-Introduction to Sudan geography and history
2.	– Sudan environment, resources and capitals development
3	– Sudanese community
4	– Sudanese cultures sources
5	– ethnic formation, Islamic, Arabic and Africans impact on Sudanese personality,
6	-The advantages of diversity and forces of unity in new world orders (globalization)
7	-governmental systems in Sudan
8	– Sudan boundaries and inter-relationship.
9	Sudanese tradition in medication
10	Sudanese tradition in dentistry
11	-Introduction to Sudan History of medical health system
12	History of dentistry in Sudan
13	Dental health system of Sudan
14	Sudanese bad habits affecting oral cavity and teeth
15	Tradition of some Sudanese tribe regarding teeth
16	Data about oral health in Sudan
	Learning strategies 1 Lectures .2 Seminars 3 Tutorials 4 Assignments 5 Small group discussion
	Assessment strategies Attendance and performance continuous assessment Assignments Written Examination
	Resources History References

Module title Arabic Language	
Credit hours 2	
Coordinating department . University Requirement	
Description It is designed to enable student to communicates with the patient and Arabic resources effectively	
Learning objectives By the end of the course the student should be able to: Improve his\her linguistic skills relevant to dental sciences in writing, listening and speaking in accordance with the correct grammar rules and proper phonetics Acquire linguistic skills relevant to dental sciences in writing, listening and speaking in accordance with the correct grammar rules and proper phonetics. Have sound knowledge on Arabic heritage.	
Week number	Session title
1.	-Arabic grammar –
2.	-Uses of references and language dictionaries
3.	-number uses- subject and verb- passive voice
4.	– connective articles – relative sentences
5.	– relative pronouns
6.	– common mistakes
7.	–essays writing
8.	– scientific terminology scientific jargon.
9.	Basic arabic communication
10.	Local terms related to disease
11.	Understanding arabic discription of patient complain
12.	Translation of professional communication
13.	Inform consent production to patient
14.	Ethical transformation
15.	Medical reassurance of patient by his language
16.	Data recording
	Learning strategies 1 Lectures .2 Seminars 3 Tutorials 4 Assignments 5 Small group discussion
	Assessment strategies Attendance and performance continuous assessment Assignments Written Examination
	Resources Arabic References

Module title: Islamic Studies	
Credit hours: 2	
Coordinating department: university requirement	
Description This course charts the formation of Islam and the expansion of Muslim peoples, from the life of the Prophet Muhammad to the modern life. It will examine Muslim institutions, beliefs, and ritual practices in their historical contexts. In addition to the basics of Muslim practice and belief, and intellectual/legal traditions as well as cultural trends including art, architecture, and literature	
Learning objectives By the end of the course the student should be able to: Associate religion with different patterns of human behavior. Acquire the concepts of coherence of the Islamic nation which emerges from the faith in the only Allah, the creator and the designer of this universe. Understand the basic concepts of Islamic culture, of science and Islamic ethics. Gain knowledge about belief, values, sociology, politics and economics	
1.	Islamic culture definition
2.	Islamic belief, cults and worship
3.	contemporary religious
4.	Islamic parties and creeds
5.	doubts raised against Islam
6.	polygamy
7.	introduction to Islamic laws
8.	introduction to holy Koran sciences ,
9.	sunna of the prophet
10.	principles of Islamic jurisprudence
11.	Islamic economic and social systems
12.	science and religion
13.	ethics of discussion and arguments
14.	scientific inimitability in holy Koran
Learning strategies : LECTURES& SEMINARS	
Assessment strategies Short essays /SSA	
Resources	

Semester 2:

Module title: bioinformatic	
Credit hours:2	
Coordinating department: basic Science	
Description To study the basic medical statistics that help the student to understand the magnitude of the health problems, research, management and planning.	
Learning objectives By the end of this course, the student should be able to:- Determine the role of medical statistics in the health of the community & studying the disease. Determine the importance of medical statistics. Identify the sources of data. Present data in forms of tables and graphs. Identify methods of central tendency the Mean, Mode, Median. Identify the method of dispersion standard deviation & the variance range. Define the sample and determine the different types of the sample. Identify the measures danseuse distribution in the community. Identify the health and demographic characteristics of the Sudanese community. Determine the population rates e .g. deaths, marriages, migration etc. Biostatistics and demography. Distribution (Geography , age , sex)	
	Contents
1.	Introduction to Biostatistics
2.	-Concepts and reasoning.
3.	-Survey of data and data types.
4.	-Tools for describing central tendency and variability in data;
5.	-Methods for performing inference on population means and proportions via sample data;
6.	-Statistical hypothesis testing and its application to group comparisons;
7.	-Issues of power and sample size in study designs;
8.	-Sample & sampling technique
9.	- Study types.
10.	- Formulae and computational elements.
11.	-Interpretation and concepts--.
12.	Computed designing
13.	-software of bioinfrmatic
Learning strategies : lectures, practical& seminars	
Assessment strategies: MCQ, SSA & PRACTICAL	
Resources	

Module title	Anatomy I			
Credit hours	3			
Coordinating department	Department of basic science		-	
Description	This course aims to teach the growth anatomy of the whole human body except for the head and neck which will be taught in greater details and separate course. The student who successfully pass this course will be prepared to understand the topics of general pathology, general surgery, general medicine, and systemic manifestations of oral diseases.			
Learning objectives	<p>A student who successfully pass this course should:</p> <p>List the descriptive anatomical terminologies</p> <p>Describe briefly the anatomical structure of skin, subcutaneous tissue, deep fascia, ligaments, tendons, cartilage, bones, joints, mucus membranes and vessels.</p> <p>Describe the bony structure of body wall, upper and lower limbs.</p> <p>Discuss the joints of the upper and lower limbs in terms of structure, type, ligaments, action, and commonest disorders.</p> <p>Identify the anatomical boundaries, action, neurovascular supply of the muscular compartments of the upper and lower limbs</p> <p>Describe the detailed anatomical features of the lungs and heart along with the important clinical correlations</p> <p>Describe the general anatomical structure and briefly the neurovascular supply of the digestive and urinary systems in the abdomen and pelvis</p>			
content				
Week number	Session title	Objectives	Session title	Objectives
1.	Anatomy introduction and terminology 1 The body wall (lecture 1hr)	Anatomical terminology	Anatomy introduction and terminology 2 The body wall (lecture 1hr)	Skin Subcutaneous tissue Deep fascia
	Anatomy introduction and terminology 3 The body wall (lecture 1hr)	Ligaments Tendons Raphe		
2.	Anatomy introduction and terminology 4 The skeleton (lecture 1hr)	Cartilage Bone Joints	Bones of the thorax (Museum)	Sternum, ribs and clavicle Thoracic vertebrae
	Anatomy introduction and terminology 5 (lecture 1hr)	Mucus membranes Blood and lymph vessels		
3.	Intercostal spaces (lecture)	Muscles, Blood supply Thoracic Spinal nerve Skin innervation Lymphatic drainage	thoracic cage (DR)	Intercostal muscles Diaphragm VAN Internal thoracic

	Clinical points	Rib identification Traumatic injuries to chest wall		
4.	Superior and posterior mediastinum 1 (Seminar) (4 students)	Thymus Great vessels Azygos system	Superior and posterior mediastinum (DR)	Great vessels, Nerves Azygos system, Trachea, Esophagus, Thoracic duct, Sympathetic chain
	Superior and posterior mediastinum 2 (Seminar) (5 students)	Nerves, Trachea Esophagus, Thoracic duct Sympathetic chain		
5.	Lungs and plurae (Lecture)	Layers and cavity Nerve supply Surfaces of lungs Lobes and fissures	Lungs and plurae (DR)	Layers and cavity Nerve supply Surfaces of lungs Lobes and fissures
		Lymphatic drainage Mechanism of respiration Pneumothorax		
6.	Pericardium and heart 1 (Tutorial)	Layers, Cavity Sinuses, Surfaces Blood supply	Pericardium and heart 1 (DR)	Layers, Cavity Sinuses, Surfaces Blood supply
		Coronary artery disease Nerve supply Cardiac pain		
7.	Heart chambers (Tutorial)		Heart chambers (DR)	
		Conducting system Fetal circulation		
8.	-	-	Revision DR	
		Midterm exam		
9.	Abdominal wall	Anterior posterior	Abdominal wall (DR)	Anterior posterior
	Urinary system in abdomen & pelvis (lecture)			
10.	Digestive system in the abdomen & pelvis (lecture)		Digestive & urinary system (DR)	
	Osteology of upper limb (museum+video)			
11.	Muscles compartments of upper limbs	Boundaries Action, Blood supply Cubital fossa	Muscles compartments of upper limbs (DR)	Boundaries Blood supply Cubital fossa

	(lecture)			
	Lymphatic drainage (lecture)	Axilla Lymph drainage		
12.	Osteology of the lower limb (museum+video)		Muscles compartments of the thigh (lecture)	Boundaries Action, Blood supply Popliteal fossa
	Muscles compartments of the thigh (DR)	Boundaries Action Blood supply Popliteal fossa		
13.	Muscles compartments of the leg (lecture)	Boundaries Action Blood supply	Muscles compartments of the leg (DR)	Boundaries Action Blood supply
	Joints of the upper and lower limbs	Shoulder, hip Elbow, wrist Knee, ankle		
14.	-	-	Revision DR	
	Learning strategies	Lecture. TBL TUTORIALS PBL		
	Assessment strategies	MCQS, SSA OSPE		
	Resources	LAST ANATOMY GRAY,S ANATOMY Snell Regional Anatomy		

Course title	Biochemistry-1	Module code	
Credit hours	4	Semester/ year	Semester 2, year 1
Course prerequisites		Course corequisites	
Description (overview of the course, rationale of teaching it, main objective)	Structure and function of biochemicals.		
Learning objectives	A student who successfully pass this course should: Cell structure and functions Understand Chemistry and Properties of water an pH Understand Chemistry of carbohydrates. Understand Chemistry of lipids. Understand Chemistry of Proteins. Understand enzymes Classes, Properties and Mechanisms of Catalysis. Understand Types and Functions of vitamins and Minerals.		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Lecture: Cell structure and functions	Cell and	Lecture: functional groups in body molecules	
	Tutorial:	previous lecture material review	Lab:	
2.	Lecture: water an pH		Lecture: water an pH	
	Tutorial:	previous lecture material review	Lab:	Exp. 1: Determination of Ph Exp. 2: Effect of dilution on pH of buffer solution Exp. 3: Effect of dilution of buffering capacity
3.	Lecture: chemistry of carbohydrates	Definition Functions General characteristics Classification	Lecture: chemistry of carbohydrates	Isomers of glucose D and L isomerism Pyranose and furanose ring structures Alpha and beta anomers Epimers Aldose-Ketose isomerism
	Tutorial :	previous lecture material review	Lab:	Exp 1: Molish test for carbohydrates
4.	Lecture: chemistry of carbohydrates	Special monosaccharides Disaccharides	Lecture: chemistry of carbohydrates	Oligosaccharides Polysaccharides
	Tutorial :	previous lecture material review	Lab:	Exp 2: Benedict's test for reducing sugars Exp 3: Iodine test for polysaccharides
5.	Lecture: chemistry of lipids	Definitions Functions Classification	Lecture: chemistry of lipids	Simple lipids Fatty acids Saturated and unsaturated fatty acids Essential fatty acids
	Tutorial:	previous lecture material review	Lab:	Exp 1: Test for presence of unsaturated fatty acids
6.	Lecture: chemistry of lipids	Omega numbering of fatty acids Mono/Di/Tri AcylGlycerol Nutritional fats Complex lipids	Lecture: chemistry of lipids	Derived lipids Bile acids Steroid hormones
	Tutorial:	previous lecture material review	Lab:	Exp 2: Test for presence of cholesterol by

				Liebermann-Burchard reaction Exp 3: Test for presence of lipid phosphate (phospholipids)
7.	Lecture: chemistry of proteins and amino acids	Definition Importance of amino acids and proteins Structure of amino acids	Lecture: chemistry of proteins and amino acids	Classification of amino acids Classification by solubility Dietary classification of amino acids Metabolic classification of amino acids
	Tutorial:	previous lecture material review	Lab:	Exp 1: Biuret test for two or more peptide linkages Exp 2: Ninhydrin test for free amino acids
8.	Lecture: chemistry of proteins and amino acids	The peptide bond Levels of protein structure Forces controlling protein structure	Lecture: chemistry of proteins and amino acids	Shape of protein Hemoglobin and myoglobin Complex protein structures Lipoproteins
	Tutorial:	previous lecture material review	Lab:	Chromatography Exp 1: Determine the RF of amino acid using chromatography
9.	Lecture: enzymes	General concepts Definition Catalyst Substrate Cofactors	Lecture: enzymes	Apoenzymes Holoenzymes Coenzymes Properties of enzymes Nomenclature of enzymes
	Tutorial:		Lab:	Exp 1: Effect of temperature on activity of enzymes
10.	Lecture: enzymes	Classification of enzymes Level of specificity Lock and key model Induced fit model	Lecture: enzymes	Factors that influence enzyme activity Enzyme inhibition Regulation of enzymes Significance of k_m
	Tutorial:	previous lecture material review	Lab:	Exp 2: Effect of pH on activity of enzymes
11.	Lecture: chemistry of nucleic acid		Lecture: chemistry of nucleic acid	
	Tutorial:	previous lecture material review	Lab:	
12.	Lecture: vitamins	Definition Classification Water soluble vitamins	Lecture: vitamins	Vitamin B3 (niacin) Vitamin B5 (pantathenic acid) Vitamin B6 (pyridoxine)

		Vitamin B1 (thiamin) Vitamin B2 (riboflavin)		Biotin (B7) Vitamin B12 (cobalamine)
	Tutorial:	previous lecture material review	Lab:	Colorimetry and spectrophotometry Exp 1: Determination of suitable spectrum Exp 2: Determination of hemoglobin concentration
13.	Lecture: vitamins	Folic acid Vitamin C (ascorbic acid)	Lecture: vitamins	Fat soluble vitamins Vitamin A Vitamin D Vitamin E Vitamin K
	Tutorial:	previous lecture material review	Lab:	Exp 1: Estimation of ascorbic acid in urine
14.	Lecture: Minerals		Lecture: Minerals	
	Tutorial:	previous lecture material review	Lab:	

	Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, ..., etc	Interactive lectures Tutorials and seminars Practical sessions (lab skills)
	Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, ..., etc	Written exam (best of five, single correct answer, short notes) Practical exam
	Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc	References (Harper) Web sites Youtube

Course title	physiology	Module code	
Credit hours	3 hours	Semester/ year	
Course prerequisites		Course co-requisites	
Description (overview of the course, rationale of teaching it, main objective)	<p>Physiology is the study of how organisms function. Studying the normal functioning of an organism is essential to the study of clinical sciences and disease states. Students will learn and understand the basic principles, concepts and facts of human physiology. The course is designed to introduce the general principles of human physiology using a systemic approach. Course content will include neural & hormonal homeostatic control mechanisms, cell & transport physiology, Body fluids: balance and disturbance, Excitable membranes; nerve and muscle cells, Autonomic nervous system and hematology.</p>		
Learning objectives	<p>A student who successfully pass this course should:</p> <ul style="list-style-type: none"> – State the levels of structural complexity within the body Define the terms internal environment & homeostasis, Outline the potential consequences of homeostatic imbalance Describe the major components & properties of control systems Acquire basic information on body composition so as to interpret changes that occur in disease processes Understand the basic properties of cell membranes which underlie the process of excitation <p>Comprehend the ionic basis of the resting & action potential of excitable cells membrane,</p> <p>Explain the basis of the process of transmission between excitable cells</p> <p>Describe the molecular basis of contraction & relaxation of muscle fibers in order to explain the links between the electrical & mechanical events</p> <p>Understand the functional relationship between the somatic & autonomic nervous systems</p> <p>Describe blood cell differentiation and metabolism, Integrate the functions of blood components with the functions of different body systems (Transport, immunity and haemostasis)</p>		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Introduction to physiology (L)	Meaning of physiology & division of physiology	Homeostasis (L)	Definition Factors homeostatically regulated Contribution of the body systems to homeostasis.
	Homeostasis (T)	Contribution of the body systems (Nervous system , endocrine system)		
2.	Cell physiology (L)	Cell theory Cell structure	Cell physiology (L)	Cell organelles
	Homeostasis (T)	Principles of homeostasis Negative & feed back		
3.	Membrane physiology (L)	Membrane structure	Membrane physiology (L)	Membrane transport
	Cell physiology (T)	Cell organelles structure & function		
4.	Body fluid balance (L)	Distribution of water concentration Units for measuring solute	Body fluid balance (L)	Measurement of body fluid
	Membrane physiology (T)	Passive diffusion Osmosis Mediated transport Type of nerve & propagation of action potential		
5.	Red blood cells (L)	Hemopiosis Hb structure , function & fate .	White blood cells , immunity (L)	WBCs structure , types & function Type of immunity Ab Complement
	Body fluid balance (T)	?		
6.	Hemostasis , blood group (L)	Blood clotting Blood group & transfusion	Action potential (L)	Excitable tissue Resting membrane potential
	Red blood cells (P)	Blood smear & RBCs morphology		

7.	Propagation of action potential (L)	Action potential Refractory period	Synaptic transport (L)	Transport of action potential Type of nerve Motor end plate & Ach
	Red blood cells (P)	HB concentration PVC Total count		
8.	Muscle contraction (L)	Functional anatomy of muscles Type of muscle & micro structure Contraction & relaxation Source of energy	Introduction, regulation of autonomic nervous system (L)	Regulation of ANS by CNS Post & pre-ganglion nerves
	White blood cells (P)	Differential WBCs count		
9.	Introduction, regulation of autonomic nervous system (L)	Dual innervations Tonic activity Feature of the system	Division of autonomic nervous system, neurons (L)	Sympathetic & parasympathetic CNS
	White blood cells (P)	Total WBCs count		
10.	Division of autonomic nervous system, neurons (L)	Neurotransmitters Termination of neurotransmitters	Receptors (L)	Nicotinic & muscarinic receptors
	Hemeostasis, blood group (P)	Bleeding & clotting time Blood groups		
11.	Receptors (L)	Receptors concerning sympathetic nervous system	Function of autonomic nervous system (L)	Function of ANS
	Hemeostasis, blood group (P)	Bleeding & clotting time Blood groups		
12.	Function of autonomic nervous system (L)	Function of ANS	Action potential (T)	Discussion
	Action potential (P)	Simple muscle		
13.	Introduction, regulation of autonomic nervous system (T)	Discussion	Division of autonomic nervous system, neurons (T)	Discussion
	Receptors (T)	Discussion		
14.	Function of autonomic nervous system (T)	Discussion		

	<p>Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc</p>	<ul style="list-style-type: none"> - Lectures will be represented by PowerPoint program. - Figures, animations and videos will be applied to enhance the understanding. - In the beginning of any lecture there will be some questions regarding the previous lecture. - student who fails to answer will write an assignment regarding the question. - Tutorials will held every week by lecturers, using learning method - Practices will be held for each course when the equipment is available.
	<p>Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc</p>	<ul style="list-style-type: none"> - There will be a midterm exam (20 degree) - There will be an assessment by the lecturers during tutorials (10 degrees)
	<p>Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc</p>	<ul style="list-style-type: none"> - There will be a handout after any lecture. - Two text book will be suggested as a reference. - Websites concerning the topic of the lecture will also be suggested

Course title	Dental Morphology and Occlusion	Module code	
Credit hours	2	Semester/ year	4
Course prerequisites	Basic Science Department	Course corequisites	
Description (overview of the course, rationale of teaching it, main objective)	<p>This course deals with nomenclature & morphology of the natural dentition & includes laboratory exercises in the wax carving of anatomically accurate teeth. Analysis of occlusal patterns & correction of occlusal disharmonies are integrated with courses in operative dentistry, prosthodontics, periodontics & orthodontics. This course based on biological & behavioral sciences will give the students a multi-disciplinary approach of the occlusion, to enhance the objectivity of clinical interpretations.</p>		
Learning objectives	<p>A student who successfully pass this course should:</p> <ul style="list-style-type: none"> Illustrate the detailed morphological features of each surface of the permanent teeth Create a wax stature simulating each permanent tooth and showing it is detailed morphology Understand the different types of numbering systems used to identify teeth Compare deciduous teeth to permanent teeth Understand the function of each tooth and its relation to tooth morphology Understand the basic principles of occlusion and the variables that play important role in inter and intra arch relationships 		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Introduction to Dental Morphology Lecture	Primary and permanent dentition Dentition periods Tooth identification system	Introduction to Dental Morphology Tutorial	Primary and permanent dentition Dentition periods Tooth identification system
2.	Permanent maxillary incisor Lecture	-labial aspect -lingual aspect -mesial aspect -distal aspect Incisal aspect	Permanent maxillary incisor Practical	-labial aspect -lingual aspect -mesial aspect -distal aspect Incisal aspect
3.	Permanent Mandibular Incisors Lecture	-labial aspect -lingual aspect -mesial and distal aspect Incisal aspect	Permanent Mandibular Incisors Practical	-labial aspect -lingual aspect -mesial and distal aspect Incisal aspect
4.	Permanent Canines Lecture	Permanent Canines -labial aspect -lingual aspect -mesial and distal aspect -incisal aspect	Permanent Canines Practical	Permanent Canines -labial aspect -lingual aspect -mesial and distal aspect -incisal aspect
5.	Morphology of the roots and pulp cavity of the anterior teeth Lecture	-pulp cavity- labiolingual and mesiodistal section	Morphology of the roots and pulp cavity of the anterior teeth Tutorial	-pulp cavity- labiolingual and mesiodistal section
	Maxillary Premolars Lecture	-buccal aspect -lingual aspect -mesial aspect -distal aspect Occlusal aspect	Maxillary Premolars Practical	-buccal aspect -lingual aspect -mesial aspect -distal aspect Occlusal aspect
7.	Mandibular Premolars Lecture	-buccal aspect -lingual aspect -mesial and distal aspect -Occlusal aspect	Mandibular Premolars Practical	-buccal aspect -lingual aspect -mesial and distal aspect -Occlusal aspect
8.	Morphology of Roots and pulp cavity of Premolars Lecture	-pulp chamber -root canal	Morphology of Roots and pulp cavity of Premolars Tutorial	-pulp chamber -root canal
9.	Permanent Maxillary Molars Lecture	-buccal aspect -lingual aspect -mesial aspect - distal aspect -Occlusal aspect	Permanent Maxillary Molars Practical	-buccal aspect -lingual aspect -mesial aspect - distal aspect -Occlusal aspect

10.	Permanent Mandibular Molars Lecture	-buccal aspect -lingual aspect -mesial aspect - distal aspect -Occlusal aspect	Permanent Mandibular Molars Practical	-buccal aspect -lingual aspect -mesial aspect - distal aspect -Occlusal aspect
11.	Morphology of Roots and pulp cavity of molars Lecture	-pulp chamber -root canal	Morphology of Roots and pulp cavity of molars Tutorial	-pulp chamber -root canal
12.	Deciduous Dentition Lecture	-comparison between deciduous and permanent dentition -surface anatomy	Deciduous Dentition Tutorial	-comparison between deciduous and permanent dentition -surface anatomy
13.	Tooth form and function Lecture			
14.	Occlusion Lecture	-definition -types of occlusion -key of occlusion -centric occlusion of anterior teeth -centric occlusion of posterior teeth	Occlusion Tutorial	-definition -types of occlusion -key of occlusion -centric occlusion of anterior teeth -centric occlusion of posterior teeth

	Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, ..., etc	Lectures Tutorials
	Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, ..., etc	
	Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, ..etc	

Semester 3:

Module title	Anatomy II (Structural and developmental anatomy)		Module code	
Credit hours	3		Semester/ year	Semester 2/ year 1
Coordinating department	Department of basic science		Module prerequisites	Cell biology General histology (corequisite)
Description	This course follows a course in the structure of cells and the function of cellular organelles. It aims to study the human body at the level of the tissue and the development of human embryo. Successfully passing this course will qualify the student to study the histology of each body system, it is also essential for functional understanding of human Anatomy, physiology, pathology, microbiology, pharmacology.			
Learning objectives	<p>A student who successfully pass this course should be able to:</p> <p>Explain the characteristics, specializations, transport mechanisms and renewal process of epithelial tissue.</p> <p>Classify the cells and fibers of connective tissue proper</p> <p>Describe the cells, matrix, periosteum and endosteum of bone.</p> <p>Discuss osteogenesis, remodeling, and metabolic role of bone tissue.</p> <p>Classify bones, joints, cartilage, adipose and muscular tissues</p> <p>Classify blood cells and understand the process of maturation</p> <p>Classify lymphoid organs and describe it's histological features</p> <p>Differentiate between the histological features of central and peripheral nervous system.</p> <p>Describe the processes of gametogenesis, fertilization, and ovarian cycle</p> <p>List the three germ layers and describe what structure they give rise to.</p> <p>Discuss the difference between the period of the ovum, embryo and fetus.</p> <p>Discuss the commonest birth defects and it's causes</p>			
content				
Week number	Session title	Objectives	Session title	Objectives
1.	Epithelial tissue 1 (surface epithelium)	Characteristics Apical specializations	Epithelial tissue 2 (surface epithelium)	Transport across epithelia
	Epithelial tissue 3 (Glandular epithelium)	Types of epithelia		
2.	Epithelial tissue 4	Renewal of epithelia	Epithelial tissue (practical)	
	Connective tissue proper 1	Cells of connective tissue		
3.	Connective tissue proper 2	Fibers Ground substances	Connective tissue (practical)	
	Connective tissue proper 3	Types of connective tissue		
4.	Connective tissue (cartilage)	Hyaline cartilage Elastic cartilage Fibrocartilage Cartilage formation, growth & repair	Connective tissue (bone)	Cells Matrix Periosteum and endosteum

	Connective tissue (bone)	Osteogenesis Types of bone		
5.	Connective tissue (bone)	Bone growth, remodeling and repair Metabolic role of bone Joints types	Bone and cartilage (practical)	
	Muscular tissue 1 (striated muscle)	Skeletal muscles Regeneration of muscles		
6.	Muscular tissue (cardiac and smooth)	Cardiac muscles Smooth muscles	Muscles & adipose tissue (practical)	
	Adipose tissue	White adipose tissue Brown adipose tissue		
7.	Blood	blood cells	Blood (practical)	
		Midterm		
8.	Lymphoid tissue	Thymus Mucosa associated lymphoid tissue Lymph nodes Spleen	Lymphoid tissue (practical)	
	Nerve tissue 1	Neurons Glial cells		
9.	Nerve tissue 2	CNS PNS Regeneration	Nervous tissue (practical)	
	Gametogenesis	Mitosis, mitosis and chromosomal birth defects		
10.	Gametogenesis	Oogenesis	Gametogenesis	Spermatogenesis
		Ovarian cycle Menstrual cycle		
11.	First week of Development	Fertilization Infertility Cleavage	Second week of Development	Completion of implantation and continuation of embryonic development Formation of the amniotic cavity, embryonic disc, and yolk sack Development of the chorionic sac Abnormal implantation
	Third week of Development	Gastrulation Formation of the Notochord		

		Establishment of the Body Axes		
12.	Third week of Development	Growth of the Embryonic Disc Further Development of the Trophoblast	Embryonic period	Ectoderm Mesoderm Endoderm
	Embryonic period	Derivatives		
13.	Fetal period	Estimation of fetal age Changes Expected date of delivery	Placenta and fetal membranes	Placenta, Yolk sac Amnion, Chorion, Twining
	Human Birth Defects	Malformations Teratogens Genetic causes of congenital anomalies		

Module title behavioral Science
Credit hours 3
Coordinating department: psychology department
<p>Description</p> <p>This educational unit introduces students to the basic constraints and methods of ethical analysis and moral reasoning, with emphasis on their application to key ethical issues in health care practice and policy .Special attention is given to the role of the physician and the opportunities and challenges to the ethical practice of medicine in today’s society</p>
<p>Learning objectives</p> <p>Upon completion of the Educational unit, learners should be able to:</p> <ol style="list-style-type: none"> 1. Describe the essential elements of the medical profession, including moral and ethical principles and legal responsibilities underlying the profession; 2. Define professional values which include excellence, altruism, responsibility, compassion, empathy, accountability, honesty and integrity, and a commitment to scientific methods; 3. Apply the principles of moral reasoning and decision making to conflicts within and between ethical, legal and professional issues including those raised by economic constraints, commercialization of healthcare, and scientific advances; 4. Describe the dimensions of professional self-regulation and express the need for continuous self-improvement admitting personal limitations including limitations of one’s medical knowledge; 5. Explain the need for respect of colleagues and other healthcare professionals and the positive collaborative relationship with them; 6. Express the moral obligation to provide end-of-life care, including palliation of symptoms; recognition of ethical and medical issues in patient documentation, plagiarism, confidentiality and ownership of intellectual property; 7. Explain the ways and means of planning effectively and managing efficiently one’s own time and activities to cope with uncertainty, adapt to change; and take personal responsibility for the care of individual patients. 8. Describe the theories and principles that govern ethical decision making, and of the major ethical dilemmas in medicine, particularly those that arise at the beginning and end of life and those that arise from the rapid expansion of knowledge of genetics. 9. Explain the threats to medical professionalism posed by the conflicts of interest inherent in various financial and organizational arrangements for the practice of medicine. 10. Make a self evaluation of his limitations in knowledge and clinical skills, and show a commitment to continuously improve one’s knowledge and ability.

11. Define and describe contemporary medical ethics and the main ethical principles of autonomy, beneficence, non-maleficence and justice.
12. Describe the circumstances under which the breaking of confidentiality can and should occur.
13. Describe and apply in practice the principles of patient consent including relation of capacity, competence, and respect for autonomy, criteria for consent to be valid and legal, criteria for ordinate refusal of consent, implied consent, age of legal capacity, advance directives and statements and consent for research.
14. Use appropriate approaches for establishing trust with, and showing respect for, patients and colleagues.

	COURSE CONTENTS
1.	What's special about the physician-patient relationship
2.	Mental relationship
3.	Respect and equal treatment
4.	Follow up and advices
5.	Communication and Consent
6.	Communication skills
7.	Decision-making for incompetent patients
8.	Competency in communication
9.	Confidentiality
10.	Beginning-of-life issues
11.	End-of-life issues
12.	Respect and equal socially
13.	
	Learning strategies : lectures and seminars
	Assessment strategies: MCQ,SSA& Assignment
	Resources A Casebook of Medical Ethics, Terrence F. Ackerman and Carson Strong An Introduction to Medical Ethics: Patient's Interest First, 2nd ed., Arthur SM Lim Evidence-Based Medical Ethics: Cases for Practice-Based Learning, Candace C. Gauthier, PhD Dental ethics at chairside : professional principles and practical applications - David T. Ozar, David J. Sokol. 2nd Ethical questions in dentistry - James T. Rule Dental ethics - [edited by] Bruce D. Weinstein.

Course title	Physiology II	Module code	
Credit hours	3 hours	Semester/ year	
Course prerequisites		Course co-requisites	
Description (overview of the course, rationale of teaching it, main objective)	The course is designed to introduce the general principles of human physiology using a systemic approach. Course content will include nervous system, endocrinology and respiratory system. This course will require students to use information drawn from other disciplines such as general cell biology, chemistry, and basic anatomy.		
Learning objectives	<p>A student who successfully pass this course should :</p> <ul style="list-style-type: none"> – Describe the structural and functional organization of the central nervous system Comprehend the mechanisms of reflexes so as to explain their role in the control of motor functions Understand the motor functions so as to test for motor disorders resulting from lesions of the motor pathways Understand the roles of the cerebellum & the vestibular apparatus in the regulation of posture & equilibrium Acquire the basic information about the sensory system & the special senses Understand basic principles of homeostatic regulation of biological systems Recognize the diversity of hormone receptor systems and transduction pathways. Acquire a systems-based working knowledge of important hormonally regulated physiological processes Understand the mechanism of breathing, lung volumes, breathing cycle. 10. Understand the gas transport and the control and regulation of respiratory 		

Content				
Week number	Session title	Session details	Session title	Session details
1	Organization of central nervous system (L)	CNS PNS ANS Cranial nerves	Neurotransmitters (L)	Ach , Noradrenaline , Dopamine Serotonin , Histamin , Glutamin
	Organization of central nervous system (T)	Cells of the nervous system Special nerval function		
2	Brain (cerebrum + cortex) (L)	Structure Cerebrum Functional region	Basal ganglion+ Thalamus + Hypothalamus +Cerebellum (L)	Importance Functions & special activity
	Neurotransmitters (T)	Discussion		
3	Brain stem (L)	Function & control	Spinal cord (L)	Introduction Function & composition.
	Brain (cerebrum + cortex) (T)	Discussion		
4	Spinal cords reflexes (L)	Introduction Withdrawal reflex	Spinal cords reflexes (L)	Cross extensor reflexes
	Brain stem (T)	Discussion		
5	Pain physiology (L)	Pain reflexes	Pituitary gland (L)	Anterior & posterior hormones
	Spinal cord (T)	discussion		
6	Thyroid & parathyroid gland (L)	T3 , T4 , calcitonin , & PTH	Pancreas , adrenal gland (L)	Insulin , glucagon Adrenal cortex & medulla
	Pain physiology (T)	Discussion		
7	Sex hormones (L)	Reproductive system	Component & function of gastrointestinal tract (L)	Component & function of GIT system
	Pituitary gland (T)	Discussion		
8	Neural control of gastrointestinal tract (L)	Neural control of GIT	Mouth (Oral cavity)	Function , innervation , glands , control

	Thyroid & parathyroid glands (T)	Discussion		
9	Stomach (L)	Structure , function & motility	Pancreas , small intestine (L)	Digestion & absorption
	Mouth (T)	Discussion		
10	Motility , absorption (L)	Motility and absorption Mechanism for GIT	Large intestine(L)	Function & structure
	Component of cardiovascular system (L)	Component of CVS		
11	Direction of blood flow (L)	Based on previous lecture	Regulation of blood volume (L)	Different systems involved in the blood vessels
	Direction of blood flow (T)	Discussion		
12	Blood pressure (L)	Regulation of BP	Electrocardiogram (L)	Description & interpretation
	Blood pressure (P)	Procedure & indication		
13	Respiratory system(introduction + functional anatomy) (L)	Introduction	Blood gas interface + mechanism of breathing (L)	Transport of blood gas
	Lung volumes & ventilation (L)	Lung volumes & indications		
14	Regulation & control breathing (L)	Central & preperhal regulation	Functional anatomy of renal system (L)	Functional anatomy of renal system
	Process of urine formation (L)	Filtration – secretion & reabsorption	Urination control (L)	CNS , ANS

	<p>Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc</p>	<ul style="list-style-type: none"> - Lectures will be represented by PowerPoint program. - Figures, animations and videos will be applied to enhance the understanding. - In the beginning of any lecture there will be some questions regarding the previous lecture. - student who fails to answer will write an assignment regarding the question. - Tutorials will held every week by lecturers, using learning method - Practices will be held for each course when the equipment is available.
	<p>Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc</p>	<ul style="list-style-type: none"> - There will be a midterm exam (20 degree) - There will be an assessment by the lecturers during tutorials (10 degrees)
	<p>Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc</p>	<ul style="list-style-type: none"> - There will be a handout after any lecture. - Two text book will be suggested as a reference. - Websites concerning the topic of the lecture will also be suggested

Module title	Head and Neck			
Credit hours	3			
Coordinating department	Department of basic science			
Description	This course deals with the most important part of growth anatomy for dental students. It aims to study the detailed anatomy of the head and neck with clinical relevance to dental practice. Students who successfully pass this course will be able to understand topics related to clinical dentistry specially the field of oral pathology and surgery.			
Learning objectives	<p>A student who successfully pass this course should:</p> <ul style="list-style-type: none"> Identify all parts of a human skull on a model or diagram. List the types of skull fractures Describe the boundaries and contents of the triangles of the neck Describe the structure, function and disorders of the temporomandibular joint Explain spread of infections through facial spaces of the head and neck Describe the extra cranial course and functions of all cranial nerves of the head and neck with exception of the nerves responsible for special senses Explore the parotid region in terms of fascia, structure, and anatomical relations Describe the boundaries, contents, connections and clinical importance of the infratemporal and pterygopalatine fossae Describe the structure, function and clinical importance of the digestive system in the head and neck Describe the structure, function and clinical importance of the respiratory system in the head and neck Discuss the blood supply, lymphatic drainage and neural control of the head and neck Discuss the radiological imaging of the head and neck Discuss the mechanism of mastication, the mastication cycle, reflexes and neural control Discuss the anatomical structures contribute to speech and the physiology of voice production. 			
content				
Week number	Session title	Objectives	Session title	Objectives
1.	Skull 1 (museum)	Skull of newborn, Frontal view, Lateral view, Mandible (Follow manual) <i>Practical 2</i>	Skull 2 (Museum)	Vertex, Base of skull (Upper view, Lower view) (Follow manual) Practical 3
	Skull fractures			
2.	Cervical vertebrae & hyoid bone (Museum) (Follow manual) <i>Practical 1</i>	Components of vertebrae (Typical, A typical, Ligaments) Components of hyoid bone Ligaments	Anterior triangles (DR)	Boundaries Contents (Follow manual) Practical 4
	Temporomandibular joint	TMJ movements TMJ dislocation		
3.	Deep fascia and fascial	Types of deep fascia (Facial spaces boundaries, contents,	Posterior triangles and root of the neck (DR)	Boundaries Contents

	spaces of the neck	communication & clinical significance)		(Follow manual) Practical 5
	Cervical nerves	Cervical plexus Brachial plexus		
4.	Parotid region (tutorial)	Fascia, Gland, Duct Relations	Scalp, Face and parotid (DR)	(Follow manual) Practical 6
	The facial nerve	(Course, components)		
5.	infra temporal, and pterygopalatine fossae (tutorial)	Boundaries Contents	infra temporal, and pterygopalatine fossae (DR)	Boundaries Contents (Follow manual) Practical 7
	Trigeminal nerve	(Course, components)		
6.	Digestive system of head and neck 1 (tutorial/seminar)	Oral cavity (Teeth, Tongue, Floor, Palate, Vestibule, Innervation, Blood supply)	Digestive system of head and neck 1 (DR)	Oral cavity (Follow manual) Practical 8
	Salivary glands	(Types, location, innervation)		
7.	Digestive system of head and neck 2 (tutorial/seminar)	Pharynx (Oro, naso, laryngeal, muscles, folds) Esophagus	Digestive system of head and neck 2 (DR)	The pharynx and esophagus (Follow manual) Practical 8
	Hypoglossal and glossopharyngeal	(Course, components)		
8.			Revision DR	
		Midterm exam		
9.	Respiratory system of head and neck 1 (tutorial/seminar)	Nose (Structure, Blood supply, Epistaxis) Paranasal sinuses (Location, Openings, Clinical significance)	Sagittal section of head and neck (DR)	Nose Paranasal sinuses (Follow manual) Practical 8
	Lecture	Swallowing Welder's ring		
10.	Respiratory system of head and neck 2 (tutorial/seminar)	Larynx (Cartilage, muscles, innervation)	Sagittal section of head and neck (DR)	The larynx (Follow manual) Practical 8
	Vagus Accessory	(Course, components)		

11.	Meninges and Venous sinuses (Tutorial)	Layers Spaces Sinuses and communication	Internal aspect of the cranium (DR)	(Follow manual) Practical 9
	Spread of dental infections	Facial spaces (Perimandibular, Mental, Buccal, Canine & Masticator)		
12.	Orbital cavity (Museum) (Follow manual) Practical 11	Orbital walls Periorbital structures	Ocular nerves (Lecture 1 hr)	Oculomotor Trochlear Abducent
	Endocrine glands of head and neck	Thyroid Parathyroid (Structure, function & clinical significance)		
13.	Blood supply of the head and neck (seminar)		Lymphatic drainage of the head and neck (seminar)	
	Mastication	Masticatory force and measurement Muscle of mastication Masticatory cycle Masticatory reflexes Neural control of mastication		
14.	Speech	Basic anatomy of larynx and vocal cords Voice production and resonators Role of palate, teeth and tongue	Revision DR	
	Learning strategies			
	Assessment strategies			
	Resources			

Biochemistry 2:			
Course title	Biochemistry-2	Module code	
Credit hours	4	Semester/ year	Semester 3, year 2
Course prerequisites		Course corequisites	
Description (overview of the course, rationale of teaching it, main objective)	Metabolism of biomolecules.		
Learning objectives	A student who successfully pass this course should: Understand Bioenergetics. Understand Intermediary metabolism Understand Metabolism of Lipids. Understand TCA Cycle. Understand Metabolism of Lipids. Understand Nitrogen Metabolism. Metabolic Base of some diseases.		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Lecture: Bioenergetics	Free energy and the role of ATP and ETC	Lecture: Bioenergetics	Free energy and the role of ATP and ETC
	Tutorial:	previous lecture material review	Lab:	
2.	Lecture: Introduction to intermediary metabolism	Definitions and Physiological Conditions	Lecture: Introduction to intermediary metabolism	Definitions and Physiological Conditions
	Tutorial:	previous lecture material review	Lab:	
3.	Lecture: Carbohydrates digestion and absorption	Carbohydrates digestion and absorption	Lecture: Carbohydrates digestion and absorption	Carbohydrates digestion and absorption
	Tutorial:	previous lecture material review	Lab:	
4.	Lecture: Glycolysis	Overview, Transport of glucose into cells, reactions of glycolysis, Fate of Pyruvate, regulation of glycolysis.	Lecture: Glycolysis	Overview, Transport of glucose into cells, reactions of glycolysis, regulation of glycolysis.
	Tutorial:	previous lecture material review	Lab:	
5.	Lecture: TCA Cycle	Overview, Energy produced by TCA Cycle, reactions of glycolysis, regulation of TCA cycle.	Lecture: TCA Cycle	Overview, Energy produced by TCA Cycle, reactions of glycolysis, regulation of TCA cycle.
	Tutorial:	previous lecture material review	Lab:	
6.	Lecture: Gluconeogenesis	Overview, Substrates for Gluconeogenesis, Reactions of Gluconeogenesis, Unique Reactions of Gluconeogenesis, Regulation of Gluconeogenesis.	Lecture: Gluconeogenesis	Overview, Substrates for Gluconeogenesis, Reactions of Gluconeogenesis, Unique Reactions of Gluconeogenesis, Regulation of Gluconeogenesis.

7.	Lecture: Glycogen Metabolism	Synthesis of glycogen, Degradation of Glycogen, Regulation of Glycogen synthesis and degradation, Glycogen Storage Diseases.	Lecture: Glycogen Metabolism	Synthesis of glycogen, Degradation of Glycogen, Regulation of Glycogen synthesis and degradation, Glycogen Storage Diseases.
	Tutorial:	previous lecture material review	Lab:	
8.	Lecture: PPP and hexose metabolism	Overview, Irreversible Oxidative Reactions, Reverse Non-oxidative Reactions, Uses of NADPH, Glucose-6-P Dehydrogenase Deficiency. Fructose Metabolism, Galactose/Lactose Metabolism.	Lecture: PPP and hexose metabolism	Overview, Irreversible Oxidative Reactions, Reverse Non-oxidative Reactions, Uses of NADPH, Glucose-6-P Dehydrogenase Deficiency. Fructose Metabolism, Galactose/Lactose Metabolism.
	Tutorial:	previous lecture material review	Lab:	
9.	Lecture: Metabolism of Dietary Lipids	Digestion and Absorption of Lipids.	Lecture: Metabolism of Dietary Lipids	Digestion and Absorption of Lipids.
	Tutorial:	previous lecture material review	Lab:	
10.	Lecture: Metabolism of Lipids	De-novo Synthesis of fatty Acids, Mobilization of Fat, Oxidation of Fatty Acids, Ketogenesis.	Lecture: Metabolism of Lipids	De-novo Synthesis of fatty Acids, Mobilization of Fat, Oxidation of Fatty Acids, Ketogenesis.
	Tutorial:		Lab:	
11.	Lecture: Cholesterol metabolism and Lipoproteins	Synthesis of Cholesterol, Degradation of cholesterol, Plasma Lipoproteins.	Lecture: Cholesterol metabolism and Lipoproteins	Synthesis of Cholesterol, Degradation of cholesterol, Plasma Lipoproteins.

	Tutorial:	previous lecture material review	Lab:	
12.	Lecture:	Digestion and absorption of amino acids + synthesis of non essential amino acids	Lecture:	Digestion and absorption of amino acids + synthesis of non essential amino acids
	Tutorial:	previous lecture material review	Lab:	
13.	Lecture: Nitrogen metabolism	Disposal of nitrogen, amino acids degradation and synthesis, conversion of amino acids to specialized products.	Lecture: Nitrogen metabolism	Disposal of nitrogen, amino acids degradation and synthesis, conversion of amino acids to specialized products.
	Tutorial:	previous lecture material review	Lab:	
14.	Lecture:	Conversion of amino acids to specialized products, Porphyrin and Heme metabolism, Jaundice	Lecture:	Conversion of amino acids to specialized products, Porphyrin and Heme metabolism, Jaundice
	Tutorial:	previous lecture material review	Lab:	

	<p>Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc</p>	<p>Interactive lectures Tutorials and seminars Practical sessions (lab skills)</p>
	<p>Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc</p>	<p>Written exam (best of five, single correct answer, short notes) Practical exam</p>
	<p>Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc</p>	<p>References (Harper) Web sites Youtube</p>

Course title	Biochemistry-3	Module code	
Credit hours	4	Semester/ year	Semester 4, year 2
Course prerequisites		Course corequisites	
Description (overview of the course, rationale of teaching it, main objective)			
Learning objectives	<p>A student who successfully pass this course should:</p> <ul style="list-style-type: none"> Understand Integration of metabolism Understand Nucleotide metabolism Understand DNA replication. Understand RNA synthesis. Understand Protein synthesis. Understand Control of gene expression. Understand Basic Principles of Medical Biotechnology and Cytogenetics. Understand Clinical genetics and Mutations. Understand Nutrients and Vitamins. Understand Hormones and signal transduction, Cell adhesion molecules, immunochemistry. 		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Lecture: Integration of metabolism	Metabolic Effects of Insulin and Glucagon, Hypoglycemia, Fed/Fasting State, Diabetes Mellitus, Nutrition, Obesity.	Lecture: Integration of metabolism	Metabolic Effects of Insulin and Glucagon, Hypoglycemia, Fed/Fasting State, Diabetes Mellitus, Nutrition, Obesity.
	Tutorial:	previous lecture material review	Lab:	
2.	Lecture: Integration of metabolism	Metabolic Effects of Insulin and Glucagon, Hypoglycemia, Fed/Fasting State, Diabetes Mellitus, Nutrition, Obesity.	Lecture: Integration of metabolism	Metabolic Effects of Insulin and Glucagon, Hypoglycemia, Fed/Fasting State, Diabetes Mellitus, Nutrition, Obesity.
	Tutorial:	previous lecture material review	Lab:	
3.	Lecture: Nucleotide metabolism	Nucleotide Metabolism, Synthesis of purine nucleotides, Synthesis deoxy-ribonucleotides, Degradation of purine nucleotides, pyrimidine synthesis and degradation, Organization of DNA: the genome.	Lecture: Nucleotide metabolism	Nucleotide Metabolism, Synthesis of purine nucleotides, Synthesis deoxy-ribonucleotides, Degradation of purine nucleotides, pyrimidine synthesis and degradation, Organization of DNA: the genome.
	Tutorial:	previous lecture material review	Lab:	
4.	Lecture: Nucleotide metabolism	Nucleotide Metabolism, Synthesis of purine nucleotides, Synthesis deoxy-ribonucleotides, Degradation of purine nucleotides, pyrimidine synthesis and degradation, Organization of DNA: the genome.	Lecture: Nucleotide metabolism	Nucleotide Metabolism, Synthesis of purine nucleotides, Synthesis deoxy-ribonucleotides, Degradation of purine nucleotides, pyrimidine synthesis and degradation, Organization of DNA: the genome.
	Tutorial:	previous lecture material review	Lab:	
5.	Lecture: DNA replication	Structure of DNA, Steps in Prokaryotic DNA Replication, Eukaryotic DNA Replication, DNA Repair	Lecture: DNA replication	Structure of DNA, Steps in Prokaryotic DNA Replication, Eukaryotic DNA Replication, DNA Repair
	Tutorial:	previous lecture material review	Lab:	

6.	Lecture: RNA synthesis	Structure and Types of RNA, Transcription of Prokaryotic/Eukaryotic Gene, Post-Transcriptional Modification.	Lecture: RNA synthesis	Structure and Types of RNA, Transcription of Prokaryotic/Eukaryotic Gene, Post-Transcriptional Modification.
	Tutorial:	previous lecture material review	Lab:	
7.	Lecture: Protein synthesis	Genetic Code, Components of Translation, Recognition by tRNA, Steps in Protein Synthesis, Post-Translational Modifications.	Lecture: Protein synthesis	Genetic Code, Components of Translation, Recognition by tRNA, Steps in Protein Synthesis, Post-Translational Modifications.
	Tutorial:	previous lecture material review	Lab:	
8.	Lecture: Control of gene expression	Regulatory sequences and molecules, Regulation of Prokaryotic and Eukaryotic Gene Expression.	Lecture: Control of gene expression	Regulatory sequences and molecules, Regulation of Prokaryotic and Eukaryotic Gene Expression.
	Tutorial:	previous lecture material review	Lab:	
9.	Lecture: Medical Biotechnology and Cytogenetics	Restriction Endonuclease, DNA Cloning, Recombinant DNA Technology,	Lecture: DNA Technologies and Cytogenetics	Restriction Endonuclease, DNA Cloning, Recombinant DNA Technology,
	Tutorial:	previous lecture material review	Lab:	
10.	Lecture: Clinical genetics and Mutations	Single gene disorders: autosomal dominant, autosomal recessive, x-linked	Lecture: Clinical genetics and Mutations	Single gene disorders: autosomal dominant, autosomal recessive, x-linked
	Tutorial:	previous lecture material review	Lab:	
11.	Lecture: Clinical genetics and Mutations	Single gene disorders: autosomal dominant, autosomal recessive, x-linked	Lecture: Clinical genetics and Mutations	Single gene disorders: autosomal dominant, autosomal recessive, x-linked
	Tutorial:	previous lecture material review	Lab:	
12.	Lecture: Nutrients and Vitamins	Vitamin D, collagen and calcium metabolism	Lecture: Nutrition and Vitamins	Vitamin D, collagen and calcium metabolism

	Tutorial:	previous lecture material review	Lab:	
13.	Lecture: Special Topics	Hormones and signal transduction, Cell adhesion molecules, immunochemistry	Lecture: Special Topics	Hormones and signal transduction, Cell adhesion molecules, immunochemistry
	Tutorial:	previous lecture material review	Lab:	
14.	Lecture: Special Topics	Hormones and signal transduction, Cell adhesion molecules, immunochemistry	Lecture: Special Topics	Hormones and signal transduction, Cell adhesion molecules, immunochemistry
	Tutorial:	previous lecture material review	Lab:	

	Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc	Interactive lectures Tutorials and seminars Practical sessions (lab skills)
	Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc	Written exam (best of five, single correct answer, short notes) Practical exam
	Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc	References (Harper) Web sites Youtube

Module title	Neuroscience			
Credit hours	4		Semester 3/ year 2	
Coordinating department	Department of basic science		Physiology Head and neck anatomy General histology General embryology	
Description	Thorough knowledge of the structure and function of the nervous system is essential to the dental practice. This course is therefore intended to provide the dental students with basic knowledge about neuroanatomy, neuro-biochemistry and neurophysiology as well as some clinical aspects where necessary.			
Learning objectives	A student who successfully pass this course should: Describe the structural buildup of the different parts of the human nervous system Explain the functional basis of the nervous system Describe the metabolic aspects of the nervous system			
content				
Week number	Session title	Objectives	Session title	Objectives
1.	The general topography of the human nervous system 1	Divisions of nervous system Neurons and glial cells histology in CNS and PNS Embryonic origin of different parts of CNS	The general topography of the human nervous system 2	forebrain topography (Sulci, gyri and functional areas)
	Topography of the brain 1	Follow manual Practical 10		
2.	The general topography of the human nervous system 3 - Anatomy	Brain stem Cerebellum (layers, pedicles, nuclei) Spinal cord ANS Enteric NS	CSF	Components Circulation Absorption Abnormalities
	Topography of the brain 2	Follow manual Practical 11		
3.	Blood supply of the brain- Anatomy	Brain need for blood Carotid artery system Vertebrobasilar system Circle of Willis Blood brain barrier Venous drainage Venous malformation	Spinal cord - Anatomy	Structure External features Spinal nerves Blood supply
	Blood supply of the brain and spinal cord	Follow manual Practical 11,12		

4.	Ascending and descending tracts	Internal features of spinal cord Pyramidal tracts Extra-pyramidal tracts	Cross-sectional anatomy of the spinal cord (tutorial)	
	Injuries to the spinal cord (tutorial)			
5.	physiology	Higher function of nervous system		
6.	Cranial nerves 1 - Anatomy	Cranial nerves nuclei (columns) General components of cranial nerves Intracranial course and components of each CN	Cranial nerves 2 - Anatomy	
	physiology	Sensory system		
	physiology	Motor system		
	Head injuries (tutorial)	Concussion Types of Intracranial hemorrhage??		
7.	The brain stem 1 – Anatomy	General structure General function External structure Internal structures Cranial nerves nuclei	The brain stem 2 – Anatomy	blood supply and vascular accidents
	physiology	Physiology of pain		
	physiology	Special senses		
	physiology	Circulatory system of CNS		
	Physiology	Vestibular system		
	Biochemistry	Neurogenetics		
	Tutorial	Transvers sections of the brain stem		
	Thalamus		Midterm exam	
	Learning strategies	Lectures tutorial, TBL ,PBL		
	Assessment strategies	MCQ, SSA , OSPE		
	Resources	Snell neuroanatomy		

Semester4:

Module title Dental Material Science	
Credit hours 2	
Coordinating department Restorative Dentistry	
Description. The student will learn the properties, manipulation, and care of materials used in the prevention and treatment of oral disease& dental diseases	
Learning objectives By the end of this course the student should be able to: Know the basic properties of dental materials Identify properties, uses, and manipulate restorative materials. Identify properties, uses, and manipulate dental cements. Know properties, types and uses of dental ceramics. Identify properties, uses, and manipulate impression materials. Identify the Dental Materials and their relation to the oral environment Identify the physical, electrical, mechanical, optical, and thermal properties of dental materials Identify the biocompatibility of dental materials. Identify the basic constituents, classification, uses, and manipulation of dental cements. Identify the basic constituents, classification, uses, and manipulation of dental amalgam. Describe polymers and polymerization reaction. Identify the basic constituents, classification, uses, and manipulation of composite resin. Identify the basic constituents, classification, uses, and manipulation of impression materials. Selection of materials for any particular dental procedure.	
Week number	Session title
1.	General Properties of Dental Materials liners- bases
2.	Dental Amalgam Restorations: Properties and Clinical Performance
3.	Composite Restorations: Introduction and Chemistry
4.	Direct Composite Restorations: Selection, Manipulation, and Clinical Performance
5.	Indirect Composite Restorations: Selection, Manipulation, and Clinical Performance
6.	Poly Acid Modified Composites
7.	Impression Materials: Hydrocolloids Impression Materials: Elastomeric Materials
8.	Bonding Agents: Introduction and Chemistry
9.	Bonding Agents: Selection and Manipulation
10.	Glass Ionomer Cement: Introduction and Chemistry
11.	Impression Materials: Rigid Materials
12.	Resin Modified Glass Ionomer Cement.
13.	Dental Casting: Investing and Burnout
14.	Dental Casting: Noble Alloys
15.	Dental Casting: Casting Defects
16.	Dental Casting: Soldering
17.	Ceramo-metallic Materials
18.	All-ceramic Materials
19.	Dental Cements: Temporary and Permanent Cements
20.	Denture Resins: Heat cured
21.	Denture Resins: Non-heat cured
22.	Endodontic, Orthodontic, and Periodontic Materials

23.	Dental Implant Materials
	<p>Learning strategies Lecture format utilizing LCD projections. Seminars. Assignments. Lab work.</p>
	<p>Assessment strategies Attendance and performance Practical sessions Seminars of the work Quizzes Written exam Clinical exam OSPE</p>
	<p>Resources Introduction to Dental Material Phillips’ Science of Dental Materials Applied Dental Materials</p>

Module title	General Pathology
Credit hours	2
Coordinating department . Basic Science	
Description The course covers the principles and terminology of general pathology the students will learn about the causes, mechanisms, and morphological manifestations of human disease, and general concepts like cell injury and death, hemodynamic disturbances, acute and chronic inflammation, wound healing, immunological disorders, degenerative processes, neoplasms and carcinogenesis.	
Learning objectives The course enabling the student to know: 1. Causes and mechanisms of cell injury, inflammation, immune system reaction, healing and the various metabolic & morphological changes that take place in cells . 2. Definition of neoplasia; nomenclature; behavioural & morphological differences between benign & malignant tumours; histological grading and staging & their importance in predicting clinical behavior & prognosis. 3. Tumor factors & their role in diagnosis & classification of cancer. Etiology of cancer	
Week number	Session title
1	Cell injury–
2	Inflammation I & II–
3	Healing & repair I & II
4	- Oedema - Pigmentation & calcification
5	- Tuberculosis I & II
6	- Amyloidosis
7	- Disorder of growth I & II - Immunopathology
8	- Genetics I & II - Thrombosis + Embolism
9	- Bleeding disorders I & II + Blood transfusion
10	- Acid base disturbances - Water & electrolyte balance
11	- Disturbance of CHO metabolism
12	- Disorders of protein, lipid, calcium and phosphate metabolism
13	- Inborn errors of metabolism -
14	-Neoplasms ; nomenclature; behavioural & morphological differences between benign & malignant tumours; histological grading and staging & their importance in predicting clinical behavior & prognosis.
15	-Tumor factors & their role in diagnosis & classification of cancer. Etiology of cancer
16	- Malabsorption - Renal disease & its oral manifestations - Salivary glands & oropharyngeal pathology - Gall bladder & pancreatic pathology -
	Learning strategies 1 Lectures .2 Seminars 3 Tutorials 4 Assignments 5 Small group discussion
	Assessment strategies Attendance and performance continuous assessment Assignments Written Examination
	Resources Mur,s Pathology

Module title	Oral biology			
Credit hours	3			
Coordinating department	Department of basic science			
Description	This course acts as a gate to the world of dentistry for dental students, they study the normal morphology of all permanent teeth, the general features of deciduous teeth, the dentistry relevant physiology and the normal dental occlusion. Successfully passing this course will equip the student with essential background to study many fields of clinical dentistry like conservative and prosthetic dentistry.			
Learning objectives	By the end of the course the student should be able to: Understand the origin of dental & other oral tissues Describe the basic structure and function of dental tissues Understand the basic design of oral mucosa and its varieties to undergo the different functions Understand and correlate form & function of oral tissue Understand the clinical correlated problems			
content				
Week number	Session title	Objectives	Session title	Objectives
1.	Orofacial development	The process of formation of the orofacial tissue and orofacial clefts	Orofacial development	Facial process formation Facial process fusions Failure of fusion of orofacial process and orofacial clefting
2.	Tooth Development	-Formation of the dentitions formation the dental tissue root formation and root division - related dental developmental anomalies	Development of the dental tissue (lecture)	- developmental stages of crown and root formation and inducing factors
3.	Amelogenesis and enamel structure	matrix formation and maturation - structure and function of enamel	Enamel of the tooth	Microscopical appearance of enamel
4.	Dentinogenesis and Dentine formation	-Developmental stages of odontoblast dentinogenesis & types of dentine - layers of dentine and age changes	Dentine	Microscopical structures of the dentin
5.	Dental pulp	General description of pulp morphology -Detailed description of the pulp histology - age changes of the pulp	Innervation and blood supply of the teeth	Local dental anesthesia techniques
6.	Dentin-pulp complex	General description of dentin-pulp interrelations -Detailed description tooth sensitivity and vitality	Tissue regeneration	Demonstration and video show of tissue regeneration

7.	Enamel Dentine clinical correlates	Comparison of physical and chemical properties of enamel and dentine in relation to clinical practice	Enamel and dentine response to caries	Cavity preparation for filling and filling retention
8.		Midterm exam		
9.	Periodontium	General descriptions of tissues that form the periodontium -Detailed description of periodontium formation	Cementum as dental tissue	Microscopical features of cementum
10.	Cementum, tooth support and hypercementosis	-Detailed description of the tooth support of cementum and fibrillar types - age and pathological changes of cementum	Functions of cementum and age changes	Radiological appearances of cementum in function and age changes
11.	The periodontal ligament	development Histology disorders	Principal fibers of periodontal ligament	Microscopical appearance of periodontal ligament
12.	Alveolar bone	Histology of cribriform plate Density cortical plate at the different parts of the jaws	Alveolar crest and clinical correlates	Radiological appearance of alveolar as diagnostic tool
13.	Oral Mucosa	basic design of oral mucosa functional classifications of mucosa - Pathological changes	Functions of the oral mucosa	Histology of the oral mucosa
14.	Gingiva	-As oral mucosa As periodontium - Attachment apparatus of the gingiva	Morphology of the gingiva Development of attachment apparatus	Clinical correlates of gingiva
	Learning strategies	Lectures Seminars Tutorial		
	Assessment strategies	Mid-semester test MCQs-EMQ- SSA -OSPE		
	Resources	1.Orban's Oral Histology & Embryology - S.N.Bhaskar 2.Oral Development & Histology - James & Avery 3.Dental Anatomy - its relevance to dentistry - Woelfel & Scheid		

Course title	microbiology	Module code		
Credit hours		Semester/ year		
Coordinating department		Module prerequisites		
Description (overview of the course, rationale of teaching it, main objective)				
Learning objectives	<p>By the end of the course the dental students should:</p> <p>Have a basic understanding of the major pathogenic organisms, related disease-syndromes and their modes of spread with particular reference to dentistry.</p> <p>Have a basic understanding of the host-parasite relationship and the immune system.</p> <p>Have a basic understanding of the oral microbial ecology and pathogenesis of dental caries and periodontal disease.</p> <p>Be aware of the major clinical and biological factors to be taken into consideration for the appropriate use of anti-microbial therapy.</p> <p>Be familiarized with some of the laboratory procedures including specimen collection and handling, requesting appropriate tests and interpretation of laboratory reports.</p>			
9-content				
Week number	Session title	Session details	Session title	Session details
1.	introduction	Definition Divisions of microbiology Prokaryotic and eukaryotic comparison Bacterial diseases Dealing with bacterial infection Bacterial shape and size Bacterial taxonomy Bacterial nomenclature Bacterial staining Oxygen requirements for bacterial growth	Cell structure	1)Capsule 2)Cell wall 3)Mesosomes 4)Ribosomes 5)Flagellae 6)Spores
	introduction	Lab: bacterial staining shape and size		

2.	Nutrition & growth Bacterial growth cycle	Nutritional requirements Environmental conditions governing bacterial growth The growth phases Bacterial growth in vivo Culture media	Sterilization & disinfection	Introduction Definitions Method Types Antiseptics
	Sterilization & disinfection			
3.	Normal flora	Change and composition of normal flora Normal flora of the skin	Normal flora	Normal flora of the mouth and upper respiratory tract Normal flora of the GIT NF of other sites
		tutorial		
4.	Bacterial pathology	Introduction Bacterial portals of entry into the body Mechanism of bacterial infection	Diagnostic bacteria Bacterial genetics	introduction Bacterial identification Introduction Bacterial chromosomes Plasmids Genetic variation in bacteria
5.	tutorial			
	Sterilization & disinfection	Lap		
6.	immunity	The immune mechanisms Innate immunity, non-specific mechanisms The process of phagocytosis Microbial killing mechanisms	Antigens	Immunogenes and haptens Specificity and cross reactions
	tutorial			
7.	Specific acquired immunity T-cell maturation	General features Active and passive immunity Lymphocyte populations Maturation process Major histocompatibility complex molecules (MHC)	B-cell maturation	Lymphocytes surface markers Cytokines Large granular lymphocyte
	Tutorial			
8.	Lymphocyte activation	B-cell activation Plasma cells	Immunoglobulin	Basic immunoglobulin structure Antigen binding site

				Other polypeptide component of immunoglobulin's
	Tutorial			
9.	Class of immunoglobulin	Immunoglobuline G Immunoglobuline A Immunoglobuline M Immunoglobuline D Immunoglobuline E	Cellular immunore actions	t-cell activation Restriction of T-cell activation Effector functions of T-cells Regulatory functions of T-cells
10.	antibiotic		The complement system	Complement proteins Activation of complement The classical pathway The alternative pathway Post c3 pathway (or the terminal complement sequences Control mechanism of Complement activation
	Tutorial			
11.	1 st hour Interaction of antigen and antibody in vitro (serology)	Types of serologic diagnostic tests Effects of antigen antibody reactions		
	tutorial			
12.	Precipitation test	Precipitation in agar with an electric field	Lap	
	Agglutination test	Haemagglutination test Complement fixation test		
13.	lap	Immunofluorescence Enzyme-linked immunosorbent assay (ELISA)	Tutorial	
	Revisions can be add when the teacher need it in any week			
14.				

	<p>Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc</p>	
	<p>Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc</p>	
	<p>Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, ..etc</p>	

Module title Forensic Odontology	
Credit hours 2	
Coordinating department. Oral Pathology	
Description <p>In recent years all aspects of living have been changed and much complicated. These complications lead to disputes and frictions among the members of the society. The law has been set to keep the social peace and govern these interactions. In spite of continuous updating, it is heard to cope with the rapidly changing concepts and modern problems.</p> <p>In many situations a firm legal decision needs an expertise legal medical assistance and in few extremely sensitive legal conditions, the medical witness maybe the sole evidence to sentence someone guilty or to prove his innocence.</p>	
Learning objectives <p>By the end of the course the student should:</p> <p>To highlight the legal and religious frames and code of reference for common problems and improve the abilities and understanding of the medical students towards these problems</p> <p>To recognize principles of forensic medicine and dentistry, general toxicology, besides modern techniques in forensic science laboratories.</p> <p>To recognize the importance of the medical evidence and how to preserve it and maintain its continuity.</p> <p>To recognize the ethics and morals of the medical profession and the laws which regulate medical practice. Also to know doctor-doctor relation and doctor-patient relation.</p> <p>To recognize the importance of dental evidence and how to preserve it and maintain it.</p>	
Week number	Session title
1.	The medical council act,.
2.	Drugs, and poisons act and other relevant laws.
3.	Medical ethics. Hippocrates oath, doctor's oath, and Helsinki declaration for human rights.
4.	Legal responsibility and contract responsibility.
5.	Medical negligence.
6.	Interpretation of bite marks (to discuss personal identification).
7.	Importance of teeth marks in apple, cheese or body surface.
8.	Describe the size of bite marks is it of adult, child or animal.
9.	How to investigate like photographs, swapping, and impressions.
10.	Dead persons identification from dentition in case of air crashes.
11.	Saliva uses as a legal evidences
12.	Identify unknown person by age, sex, and race.
13.	Age estimation by dentition.
14.	How to confirm or exclude personal identity against antimortem dental records.
	Learning strategies 1 Lectures .2 Seminars 3 Tutorials 4 Assignments 5 Small group discussion
	Assessment strategies Attendance and performance continuous assessment Assignments Written Examination
	Resources Forensic Odontology References

Course title	pharmacology	Module code	
Credit hours	90 hrs	Semester/ year	5/ third year
Course prerequisites	Physiology Pathology biochemistry	Course corequisites	
Description (overview of the course, rationale of teaching it, main objective)	The dentists are a prescriber. They should be able to select therapy and prescribe rationally and safety without supervision.		
Learning objectives	A student who successfully pass this course should: <ul style="list-style-type: none"> –understand mechanism of drugs action –know the basic principles of pharmacodynamics, response, adverse effect,.... –be able to describe the various kinetics processes and factors influencing them. –understand drugs acting an autonomic system, their uses and side effects –understand and be able to select treatment for: <ul style="list-style-type: none"> Pain management Heart failure, hypertension, angina and infarction Asthma and cough Peptic ulcer and gut motility Diabetes, thyroid, and corticosteroid. Antibiotics anesthesia 		

Content				
Week number	Session title	Session details	Session title	Session details
1.	1 st hour	Anaxiolytic drugs	2 nd hour	Antidepressant drugs
	3 rd hour(if 3 credit hours)	Antidepressant drugs		
2.	1 st hour	Narcotic analgesics	2 nd hour	General anesthesia
	3 rd hours	Local anesthesia		
3.	1 st hour	Endocrine introduction	2 nd hour	Glucocorticoid drugs
	3 rd hour(if 3 credit hours)	Thyroid drugs		
4.	1 st hour	Diabetes drugs	2 nd hour	Diabetes drugs
	3 rd hour(if 3 credit hours)	Diabetes drugs		
5.	1 st hour	Bone homeostasis	2 nd hour	Hormonal contraceptive
	3 rd hour(if 3 credit hours)	Hormonal contraceptive		
6.	1 st hour	Chemotherapy introduction	2 nd hour	Antibacterial drugs
	3 rd hour(if 3 credit hours)	Antibacterial drugs		
7.	1 st hour	Anticancer drugs	2 nd hour	Antifungal drugs
	3 rd hour(if 3 credit hours)	Antiviral drugs		
8.	hour	Cardiovascular system drugs	2 nd hour	Cardiovascular system drugs
	3 rd hour(if 3 credit hours)	Antihypertention drugs		
9.	1 st hour	Anti anginal drugs	2 nd hour	shock
	3 rd hour (if3 credit hours)	Myocardial infraction drugs		
10.	1 st hour	Other cardiovascular system drugs	2 nd hour	Other cardiovascular system drugs
	3 rd hour (if 3 credit hours)			
11.	1 st hour	Poisons	2 nd hour	poisons
	3 rd hour (if 3 credit hours)	Poisons tutorial		
12.	1 st hour	Substance abuse	2 nd hour	Substance abuse
	3 rd hour(if 3 credit hours)	Substance abuse		
13.	1 st hour	MI drugs tutorial	2 nd hour	Lipid+ fibrinolysis tutorial
	3 rd hour(if 3 credit hours)	CVS tutorial		
14.	1 st hour	CNS tutorial	2 nd hour	LA+ GA tutorial
	3 rd hour(if 3 credit hours)	Diabetes+ chemistry tutorial		Anxiolytic tutorial

	<p>Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc</p>	<p>LECTURES TUTORIALS SMALL GROUP DISCUSSION</p>
	<p>Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc</p>	<p>Written exam Oral exams</p>
	<p>Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc</p>	<p>Lippincott's pharmacology. Basic and clinical pharmacology, Laurence. handouts</p>

Semester 5:

Module title Systemic Pathology	
Credit hours 3	
Coordinating department . Basic Science	
Description The systemic pathology section includes the gross, microscopic and clinical features of the cardiovascular, respiratory, gastrointestinal, endocrine, urogenital, integumentary, musculoskeletal, hematolymphoid and nervous system diseases	
Learning objectives The course enabling the student to know: Causes and mechanisms pathophysiology of the different body systems. Definition of neoplasia; nomenclature; behavioural & morphological differences between benign & malignant tumours; histological grading and staging & their importance in predicting clinical behavior & prognosis. Tumor factors & their role in diagnosis & classification of cancer. Etiology of cancer	
Week number	Session title
1.	Congestion & infarction - Shock
2.	- Haemopoiesis & classification of anaemias
3.	- Disorders of protein, lipid, calcium and phosphate metabolism
4.	- Inborn errors of metabolism
5.	- Malaria; leishmaniasis & schistosomiasis
6.	- Leprosy & syphilis - Hepatitis I & II
7.	- Leukemias I & II - Malabsorption
8.	- AIDS pathology
9.	- Diseases of the blood & lymph vessels - Systemic hypertension
10.	- Rheumatic fever + Infective endocarditis
11.	- Ischaemic heart disease + Congenital heart disease
12.	- Musculoskeletal diseases
13.	- Renal disease & its oral manifestations
14.	- oropharyngeal pathology
15.	- Gall bladder & pancreatic pathology
16.	- Thyroid gland diseases
17.	- CNS Diseases
18.	-Skin Diseases
	Learning strategies 1 Lectures .2 Seminars 3 Tutorials 4 Assignments 5 Small group discussion
	Assessment strategies Attendance and performance continuous assessment Assignments

	Written Examination
	Resources Mur,s Pathology

Course title	microbiology	Module code		
Credit hours	4/weeks	Semester/ year	6	
Coordinating department		Module prerequisites		
Description (overview of the course, rationale of teaching it, main objective)				
Learning objectives	A student who successfully pass this course should: Immunological reactions Immuno-compromise diseases System microorganism			
content				
Week number	Session title	Session details	Session title	Session details
1.	Introduction	Species Culture Toxins production Pathogens Direct examination Treatment Prevention	Streptococcus	General characteristics B-hemolytic streptococci non B-hemolytic streptococci
	Tutorial			
2.	Streptopyogenes	General characteristics Toxin and enzymes Serotype Pathogenicity Laboratory diagnosis Serology-treatment-prevention	Streptococcus agalactia Enterococci	Culture Pathogenicity Diagnostic features Treatment General characteristics Culture Colonies Identification Pathogenicity treatment
	Tutorial			
3.	Viridians group of streptococcus Streptococcus pneumoniae	Identification Treatment General characteristics Culture Colonies Antigen Pathogenicity	Nisseria meningitis	Types Virulence factors Pathogenicity Culture Treatment prevention

	Tutorial			
4.	Basic anthracis	Morphology Staining Culture Antigen structure Viability of bacterial cell Pathogenesis Laboratory diagnosis Identification Treatment prevention	Bacillus cereuses Corynebacterium diphtheria	Introduction General characteristics Identification Diphtheria toxin Pathogenicity Laboratory diagnosis Treatment Epidemiology prevention
	Tutorial			
5.	Listeria	General characteristics Laboratory diagnosis Treatment prevention	Clostridium tetani	Morphology Toxin Antigens Pathogenesis Laboratory diagnosis Identification Treatment prevention
	Tutorial			
6.	Clostridium botulinum	Transmission Toxin Pathogenesis Laboratory diagnosis Treatment Control	Clostridium perfringens	General characteristics Culture Toxins pathogenesis Identification Laboratory diagnosis of food poisoning Treatment of food poisoning Prevention
	Tutorial			
7.	Clostridium difficile	Toxin	Bordetella pertussis	General characteristics pathogenicity Laboratory diagnosis Treatment Prevention
	Haemophilus influenza	General characteristics Laboratory diagnosis Treatment Prevention		
	Tutorial			
8.	Mycobacterium tuberculosis	General characteristics Pathogenicity Transmission	Spirochetes	General characteristics General characteristics

	mycobacterium leprae	Laboratory diagnosis Treatment Prevention General characteristics Laboratory diagnosis Treatment epidemiology Prevention	Treponema pallidum	Antigen structure pathogenicity Laboratory diagnosis Treatment Prevention
	Tutorial			
9.	Tenax lishmanya		Leptospira and borrelia and vincent	General characteristics pathogenicity Laboratory diagnosis Treatment Prevention
	Tutorial			
10.	antibiotic			Complement proteins Activation of T-cell activation Effector functions of T-cells Regulatory functions of T-cells
	Tutorial			
11.	Interaction of antigen and antibody in vitro (serology)	Types of serologic diagnostic tests Effects of antigen antibody reactions		
	Tutorial			
12.	Precipitation test	Precipitation in agar with an electric field	lap	
	Agglutination test	Haemagglutination test Complement fixation test		
13.	lap	Immunofluorescence Enzyme-linked Immunosorbent assay (ELISA)	tutorial	
	Revisions can add when the teacher need it in any week			

	<p>Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, ..., etc</p>	
	<p>Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, ..., etc</p>	
	<p>Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc</p>	

Course title	Oral pathology	Module code	
Credit hours	2	Semester/ year	Sem 6
Course prerequisites	Anatomy , physiology , biochemistry , dental anatomy , general pathology , radiology , microbiology , pharmacology	Course corequisites	General medicine , general surgery
Description (overview of the course, rationale of teaching it, main objective)	The course introduces the dental students to basic knowledge of diseases in the oral and maxillofacial region, including diseases of teeth, bone, soft tissue, and salivary gland tissue.		
Learning objectives	<p>A student who successfully pass this course should:</p> <ul style="list-style-type: none"> -classify developmental anomalies of oral and para oral structure. Enumerate different types of developmental anomalies of teeth Describe developmental anomalies of teeth number, size , shape and structure List developmental anomalies of jaw bones and cranio-facial bones Outline developmental anomalies of oral soft tissues Define dental caries Describe etiology and pathology of dental caries Classify pulp diseases Enumerate etiology of pulp diseases Describe types of pulpitis Discuss complications of untrated pulpitis -describe different periapical pathology and their etiology 		

	Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc	*class room lectures as power point presentation * seminar and tutorials		
	Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc	tests written exams Mid exam Final exam		
	Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc	SOAMSS text book		
	Course committee	Job	Name	Qualification
Internal expert		Abd Almalik MAHDI		
External expert		Dalia Alsadg M.Hussein		
External expert				
Executive Secretary		MONA OSMAN AHMED		

Course title	Oral pathology	Module code	
Credit hours	2	Semester/ year	Sem 6
Course prerequisites	Anatomy, physiology , biochemistry , dental anatomy , general pathology , radiology , microbiology , pharmacology	Course corequisites	General medicine , general surgery
Description (overview of the course, rationale of teaching it, main objective)	The course introduces the dental students to basic knowledge of diseases in the oral and maxillofacial region, including diseases of teeth, bone, soft tissue, and salivary gland tissue.		
Learning objectives	<p>A student who successfully pass this course should:</p> <ul style="list-style-type: none"> -classify developmental anomalies of oral and para oral structure. Enumerate different types of developmental anomalies of teeth Describe developmental anomalies of teeth number, size , shape and structure List developmental anomalies of jaw bones and cranio-facial bones Outline developmental anomalies of oral soft tissues Define dental caries Describe etiology and pathology of dental caries Classify pulp diseases Enumerate etiology of pulp diseases Describe types of pulpitis Discuss complications of untrated pulpitis -describe different periapical pathology and their etiology 		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Developmental disorders of oral and para oral structure	Introduction to developmental anomalies of oro-facial region and classification	Developmental disorders of oral and para oral structure	Developmental anomalies of teeth number
2.	Developmental disorders of oral and para oral structure	Developmental anomalies of teeth size	Developmental disorders of oral and para oral structure	Developmental anomalies of teeth shape
3.	Developmental disorders of oral and para oral structure	Developmental anomalies of teeth structure (enamel)	Developmental disorders of oral and para oral structure	Developmental anomalies of teeth structure (enamell)
4.	Developmental disorders of oral and para oral structure	Environmental dental anomalies	Developmental disorders of oral and para oral structure	Disturbance In teeth number
5.	Developmental disorders of oral and para oral structure	Developmental anomalies of jaw bones	Developmental disorders of oral and para oral structure	Developmental anomalies of oral soft tissues and cleft lip and palate
6.	Developmental disorders of oral and para oral structure	Developmental anomalies of oral soft tissues and cleft lip and palate	Tutorial	Developmental anomalies of oral soft tissues and cleft lip and palate
7.	Tutorial	Developmental anomalies of oral soft tissues and cleft lip and palate	Developmental disorders of oral and para oral structure	Developmental disorders of cranio-facial bones
8.	Tutorial	Developmental disorders of cranio-facial bones	Developmental disorders of oral and para oral structure	TEST (1) quizzes in Developmental disorders of oral and para oral structure 10 MCQS
9.	Dental caries	Definition , classification according to G.V Black , etiology	Dental caries	Factors of caries development
10.	Dental caries	Histopathology of dental caries (phases and zones)	Dental caries	
11.	Tutorial	Dental caries	Tutorial	Dental caries
12.	Dental caries	TEST (2) quizzes in DENTAL CARIES 10 MCQS	PULP diseases	Definition , etiology and classification of pulp diseases
13.	Pulp diseases	Pulpitis etiology and pathology Pulp calcification	Pulp diseases	

14.	Pulp diseases		Tutorial	Pulp diseases
15.	Tutorial	Pulp diseases	Periapical diseases	Etiology and classification Periapical periodontitis (acute and chronic)
16.	periapical diseases	Periapical granuloma mechanism of spread of dental infection Complications of untreated dental infection	periapical diseases	Spread of dental infection (important one haematological spread) , ludwing angaina , cellulitis and cavernous sinus thrombosid
17.	periapical diseases	mechanism of spread of dental infection Complications of untreated dental infection	Tutorial	periapical diseases
18.	Tutorial	periapical diseases		Discussion of different course topics

Content				
Week number	Session title	Session details	Session title	Session details
1.	Developmental disorders of oral and para oral structure	Introduction to developmental anomalies of oro-facial region and classification	Developmental disorders of oral and para oral structure	Developmental anomalies of teeth number
2.	Developmental disorders of oral and para oral structure	Developmental anomalies of teeth size	Developmental disorders of oral and para oral structure	Developmental anomalies of teeth shape
3.	Developmental disorders of oral and para oral structure	Developmental anomalies of teeth structure (enamel)	Developmental disorders of oral and para oral structure	Developmental anomalies of teeth structure (enamell)
4.	Developmental disorders of oral and para oral structure	Environmental dental anomalies	Developmental disorders of oral and para oral structure	Disturbance In teeth number
5.	Developmental disorders of oral and para oral structure	Developmental anomalies of jaw bones	Developmental disorders of oral and para oral structure	Developmental anomalies of oral soft tissues and cleft lip and palate
6.	Developmental disorders of oral and para oral structure	Developmental anomalies of oral soft tissues and cleft lip and palate	Tutorial	Developmental anomalies of oral soft tissues and cleft lip and palate
7.	Tutorial	Developmental anomalies of oral soft tissues and cleft lip and palate	Developmental disorders of oral and para oral structure	Developmental disorders of cranio-facial bones
8.	Tutorial	Developmental disorders of cranio-facial bones	Developmental disorders of oral and para oral structure	TEST (1) quizzes in Developmental disorders of oral and para oral structure 10 MCQS
9.	Dental caries	Definition , classification according to G.V Black , etiology	Dental caries	Factors of caries development
10.	Dental caries	Histopathology of dental caries (phases and zones)	Dental caries	
11.	Tutorial	Dental caries	Tutorial	Dental caries
12.	Dental caries	TEST (2) quizzes in DENTAL CARIES 10 MCQS	PULP diseases	Definition , etiology and classification of pulp diseases
13.	Pulp diseases	Pulpitis etiology and pathology Pulp calcification	Pulp diseases	
14.	Pulp diseases		Tutorial	Pulp diseases

15.	Tutorial	Pulp diseases	Periapical diseases	Etiology and classification Periapical periodontitis (acute and chronic)
16.	periapical diseases	Periapical granuloma mechanism of spread of dental infection Complications of untreated dental infection	periapical diseases	Spread of dental infection (important one haematological spread), ludwing angaina , cellulitis and cavernous sinus thrombosid
17.	periapical diseases	mechanism of spread of dental infection Complications of untreated dental infection	Tutorial	periapical diseases
18.	Tutorial	periapical diseases		Discussion of different course topics

	Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc	*class room lectures as power point presentation * seminar and tutorials
	Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc	* tests * written exams - Mid exam - Final exam
	Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc	SOAMSS text book

Module title Pre-Clinical Operative Dentistry	
Credit hours 2	
Coordinating department . Oral Rehabilitation	
Description <p>This course consists of two main components, the principles of cavity preparations for the currently available restoratives and their physical and manipulative characteristics and cavity restoration.</p> <p>This course of study is critically important for the clinical future of practitioners as it prepares them for the provision of the major portion of dental care to their patients. It will be a combination of lectures and lab exercises, as well as introduction to clinical practice representing different restorative procedures in Operative Dentistry.</p> <p>All of the lectures, instructional procedures and materials that the students will receive have been designed to help them develop the knowledge, the skills and judgment necessary to achieve the goals of Operative Dentistry Programme. The development and exercise of integrity is as essential to the students, competency in dental care as in the development of their knowledge and skills.</p>	
Learning objectives <p>By the end of the course the student should:</p> <ol style="list-style-type: none"> 1. The primary objectives of this course are to present the basic principles, techniques and rationale of operative procedures and apply them. 2. Present a step-by-step procedure for each cavity preparation and cavity restoration. 3. Train the students in different operations (cavity preparation and restoration) by doing specific standardized exercises on Dentoforms mounted on mannequins. 4. Train the students in the above operations in a situation very similar to the clinical set-up. 5- Train students to recognize their own mistakes, and to correct them. 	
Week number	Session title
1.	Introduction to Operative Dentistry.
2.	Instruments in Operative Dentistry.
3.	Isolation of the Operative Field.
4.	Patient Operator Position.
5.	Aetiology of Dental Caries.
6.	Classification of Dental Caries.
7.	Diagnosis of Dental Caries.
8.	Prevention & Control of Dental Caries.
9.	Pathology of Dental Caries.
10.	Principles of Cavity Preparation.
11.	Cavity Preparation for Amalgam Restorations.
12.	Matrices & Wedge.
13.	Cavity Preparation for Tooth Coloured Restoration.
14.	Base & Liners
	Learning strategies 1 Lectures .2 Seminars 3 Tutorials 4 Assignments 5 Small group discussion
	Assessment strategies Attendance and performance continuous assessment Assignments

	Written Examination MCQs, SSA Practical Examination OSPE
	Resources Sturdevant's Art and Science of Operative Dentistry, 5 th edition 2006 Baum, Phillips and Lund. Textbook of Operative Dentistry, 3 rd edition 1995. Pickard's Manual of Operative Dentistry 7 th edition 2000. Schwartz et al. Fundamentals of Operative Dentistry- A contemporary approach, 3 rd edition 2006.

Course title	PRE-CLINICAL COMPLETE DENTURE PROSTHODONTICS I	Module code	
Credit hours		Semester/ 3rd year	5
Course prerequisites	Biomaterial sciences	Course corequisites	
Description (overview of the course, rationale of teaching it, main objective)	<p>This course is the first course in Removable prosthodontics .It consists of didactic and practical components that cover both complete removable dentures .The first half of year is devoted for complete dentures while the second half is devoted for removable partial dentures . The practical component covers the technical aspect of complete denture construction in the first half of the year , and the technical aspect of removable partial denture construction in the second half of the year.</p>		
Learning objectives	<p>Demonstrate the abilities and skills to do all the laboratory procedures related to construction of complete dentures. Identify and describe the various components of a removable partial denture Illustrate the basic knowledge of how to design a removable denture framework . Demonstrate the basic knowledge and fundamentals of the various lap procedures related to the construction of a removable denture . Identify the different materials ,instrument and devices involved in the construction of complete and removable dentures as wells their uses . Carry out various repair reline and rebase methods used in complete and partial denture service Demonstrates a willingness to follows instruction and protocol . Promotes a positive and constructive learning environment .</p>		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Introduction to Prosthodontics and Principles for Complete Denture Prosthodontics. (L)	-Definition of Prosthodontic -Classification of prosthodontics into: Fixed Prosthodontics Removable Prosthodontics Maxillofacial prosthodontics Implantology	Complete denture prosthodontics (L)	Session prepared by the students to review the lecture
2.	Oral anatomical landmarks(L)	Anatomical land marks in the mandible. Anatomical land marks in maxilla. Limiting structures Support structures Relief areas	Oral anatomical landmarks(L)	Students should draw mandibular and maxillary anatomical land marks on upper and lower casts with different colors
	Oral anatomical landmarks(S)			
3.	Trays AND MASTER CAST (L)	Types of trays according to the shape, material, size, Criteria for stock tray selection	Trays AND MASTER CAST(P)	Introduce different types of trays to the students so the students can differentiate between dentate and edentulous tray
4.	Principle of special tray construction (L)	-Outline the master cast -Adaptation of wax spacer -Material used for construction of the special tray	Laboratory steps	Demonstration of special tray construction by the lap technician. Each student should construct Special tray
5.	Record blocks (L)	Maxillo-mandibular relationship. Construction of the record blocks.	Record blocks (P)	Demonstration of record block construction by the lap technician. Each student should construct upper and lower record block
6.	Articulators & Face bow (L)	Classification of articulators Advantages, disadvantages and uses	Articulators & Face bow (L)	Face bow uses, types and different components of it

				How to use the face bow to mount the upper cast on the articulator.
	Articulators & Face bow (p)	Students see different types of articulators and face bow and be familiar with the component of each one.		
7.	Mounting the casts on Hanau Articulator(L)	Procedure of mounting the cast on the articulator	Mounting the casts on Hanau Articulator(p)	Mounting of upper and lower casts on the articulator
8.	Arrangement of Anterior Teeth.(L)	Selection of anterior teeth according to size, shape and shade Principle of arranging anterior teeth	Arrangement of Anterior Teeth. (p)	Setting of anterior teeth on the articulator
9.	Arrangement of Posterior Teeth.(L)	Selection of posterior teeth according to size, shape and shade Principle of arranging posterior teeth	Arrangement of Posterior Teeth.(P)	Setting of posterior teeth on the articulator
10.	Complete - denture wax up.(P)	Contouring of the polished surface of the trial denture		
11.	Flasking the casts Dewaxing procedure(p)	Investing the casts in the articulator, heating the flask to remove the wax		
12.	Deflasking of complete dentures. (L)	Packing the mold with acrylic resin, and curing procedure	Deflasking of complete dentures. (P)	Complete the processing of complete denture. Finishing and polishing the denture
13.	Principles of selective grinding, finishing, and polishing of the dentures.(L)		Principles of selective grinding, finishing, and polishing of the dentures.(P)	
14.	Denture Repairs.(L)	Laboratory steps of repairing complete denture.	Denture Repairs.(P)	Demonstration of complete denture repair

15.	Mandibular movement (L)		Laboratory techniques in relining and rebasing (P)	

	Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc	Didactic-lectures Laboratory-demonstration Tutorials and seminars
	Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc	Practical, written, oral exam, and OSPE
	Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc	Boucher's Prosthodontic Treatment for Edentulous Patients 12th Edition, Mosby & Co. Editors: Zarb, Bolender, and Carlsson Syllabus of Complete denture by- Charles M. Hartwell Jr. and Arthur O Rahn.

Course title	PRE-CLINICAL REMOVABLE PROSTHODONTICS	Module code	
Credit hours		Semester/ 6 3rd year	
Course prerequisites	Biomaterial science	Course requisites	
Description (overview of the course, rationale of teaching it, main objective)	<p>This course is the first course in Removable Prosthodontics. It consists of didactic and practical components that cover both complete and partial removable dentures. The first half of the year is devoted for complete dentures while the second half is devoted for removable partial dentures. The practical component covers the technical aspect of complete denture construction in the first half of the year, and the technical aspect of removable partial denture construction in the second half of the year.</p>		
Learning objectives	<p>A student who successfully pass this course should:</p> <ul style="list-style-type: none"> – Demonstrate the abilities and skills to do all the laboratory procedures related to construction of complete dentures. Identify and describe the various components of a removable partial denture. Illustrate the basic knowledge of how to design a removable partial denture framework. Demonstrate the basic knowledge and fundamentals of the various laboratory procedures related to the construction of a removable partial denture. Identify the different materials, instruments and devices involved in the construction of complete and removable partial dentures as well as their uses. Carry out various repair, reline and rebase methods used in complete and partial denture service. Demonstrates a willingness to follows instructions and protocol. Promotes a positive and constructive learning environment 		

Content				
Week number	Session title	Session details	Session title	Session details
1.	RPD & terminology (L)	Introduction to prosthodontics - Definition of some prosthetic terms		
2.	Classification of partially edentulous arches (L)	-Kennedy Classification. -Apple gat rules	Classification of partially edentulous arches (P)	Introduction of lap instruments and materials, making impression, preparation of diagnostic cast
3.	Surveying of partially edentulous casts(L)	-Definition of surveying, types of surveyors, components and different tools of surveyor.	Surveying of partially edentulous casts(P)	Review of the previous session and surveying of the diagnostic cast
4.	Direct retainers: Suprabulge Direct Retainers)(L)	Definition, classification, principles of clasp design, suprabulge clasps	Direct retainers: Suprabulge Direct Retainers)(P)	Seminar in suprabulge direct retainer
	Infrabulge direct retainers (L)	Different types of Infrabulge direct retainers. Comparison between supra and Infrabulge direct retainers	Direct retainers: Infrabulge Direct Retainers)(P)	Seminar in Infrabulge direct retainer
5.	Indirect Retainers. (L)	Function, principles of indirect retainer, components act as indirect retainers	Indirect Retainers.	Seminar in indirect retainer
6.	Major Connector I. (Maxillary Major Connectors)(L)	Definition, function, requirement and classification of major connectors.	Major Connector I. (Maxillary Major Connectors)(P)	Seminar on maxillary major connector

	Major Connector I. (Maxillary Major Connectors)(T)			
7.	Major Connector I. (Mandibular Major Connectors)(L)	Different types of mandibular major connectors	Major Connector I. (Mandibular Major Connectors)(P)	Seminar on mandibular major connector
	Major Connector I. (Mandibular Major Connectors)(T)			
8.	Minor Connectors (L)	Definition, function, types of minor connectors	1Minor Connectors (P)	Seminar on minor connectors
9.	Rest and rest seat(L)	Definition, function, types of rests, how to prepare rest seat	Rest and rest seat(P)	Seminar on rest and rest seat
10.	Denture base and teeth for removable partial dentures.(L)	Definition, denture base materials, attachment of teeth to denture base, relining and repair of denture base	Denture base and teeth for removable partial dentures.(P)	Seminar on denture base and artificial teeth. Selection of artificial teeth (size, shape, material)Principles of RPD
11.	design of RPD(L)	Principle of RPD design, differentiation between two types of RPD (tooth supported or tooth tissue supported RPD	design of RPD(P)	Preparation of four casts with different Kennedy classifications. Surveying the casts and drawing the design of each Kennedy classification after selection of the write components
	design of RPD(T)			

12.	Laboratory procedures of metallic framework construction(L)	<p>Preparation done on the master cast:</p> <ul style="list-style-type: none"> -blocking out of undercut -Relief to the areas which need relief -duplication of the master cast. <p>Preparation done on the refractory cast:</p> <ul style="list-style-type: none"> -Hardening -Dipping in bees wax transfer the design to the cast -Preparation of the wax pattern -sprewing -Investing the cast -Wax elimination -Casting procedure -Finishing and polishing 	Laboratory procedures of metallic framework construction(P)	Demonstration of laboratory procedure by the lab technician
13.	Repair and relining of partial denture(L)		Repair and relining of partial denture(P)	Demonstration of the laboratory step for relining and repair
14.	MANAGEMENT OF RESIDUAL RIDGE(L)			
	Revision (L)			

	<p>Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc</p>	lectures, tutorials, practical, seminars and assignment
	<p>Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc</p>	written ,practical , continuous assessment, oral exam, OSPE
	<p>Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc</p>	Stewart’sClinicalRemovableProsthodontics.4 th Edition. Quintessence PublishingCo,Inc. McCracken’sRemovableProsthodontics,11 th Edition2004byMc Givney GP,CarrAB.

Module title Preclinical Oral Surgery	
Credit hours 2	
Coordinating department Oral & maxillofacial Surgery	
Description. The student will demonstrate surgical procedures on phantom head	
Learning objectives By the end of this course the student should be able to: 1. anatomy and innervation of the oral cavity 2. Introduction, definition, scope, aims and objectives 3. History taking 4. Clinical examination & Investigations. 5. Principles of infection control and cross-infection control with particular reference to HIV/AIDS and Hepatitis. 6. Principles of Oral Surgery – Asepsis: Definition, measures to prevent introduction of infection during surgery. 7. Biologic considerations for maxillary and mandibular impression including 8. Measures to be taken by operator 9. Sterilisation of instruments - various methods of sterilisation etc. 10. Surgery set up. 11. Painless Surgery: 12. Pre- anaesthetic considerations & Pre-medication: purpose, drugs used 13- Simple extraction procedures	
Week number	Session title
1.	Introduction, concept of L.A., classification of local anaesthetic agents, ideal requirements, mode of action, types of local anaesthesia, complications.
2.	Use of Vasoconstrictors in local anaesthetic solution –
3.	Advantages, contra-indications, various vaso constrictors used.
4.	Anaesthesia of the mandible –
5.	Pterygomandibular space - boundaries, contents etc.
6.	Inferior Dental Nerve Block - various techniques
7.	Complications
8.	Mental foramen nerve block
9.	Anaesthesia of Maxilla –
10.	Infra - orbital nerve block.
11.	Posterior superior alveolar nerve block
12.	Maxillary nerve block – techniques
13.	General Physical examination by inspection.
14.	Oro-facial region by inspection, palpation and other means
15.	To train the students about the importance, role, use of saliva and techniques of diagnosis of saliva as part of oral disease
16.	Examination of lesions like swellings, ulcers, erosions, sinus, fistula, growths, pigmented lesions, white and red patches
17.	Examination of lymph nodes

18.	Forensic examination – Procedures for post-mortem dental examination; maintaining dental records and their use in dental practice and post-mortem identification; jurisprudence and ethics.
19.	Biopsy and exfoliative cytology.
20.	Hematological, Microbiological and other tests and investigations necessary for diagnosis and prognosis
	<p>Learning strategies Lecture format utilizing LCD projections. Seminars. Assignments. Lab work.</p>
	<p>Assessment strategies Attendance and performance Practical sessions Seminars of the work Quizzes Written exam Clinical exam OSPE</p>
	<p>Resources a) Oral Diagnosis, Oral Medicine & Oral Pathology 1. Burkit – Oral Medicine – J.B. Lippincott Company 2. Coleman – Principles of OralDiagnosis – Mosby Year Book 3. Jones – Oral Manifestations of Systemic Diseases – W.B. Saunders company 4. Mitchell – Oral Diagnosis & Oral Medicine 5. Kerr – Oral Diagnosis 6. Miller – Oral Diagnosis & Treatment 7. Hutchinson – clinical Methods 8. Oral Pathology – Shafers 9. Sonis.S.T., Fazio.R.C. and Fang.L - Principles and practice of Oral Medicine</p>

Module title :Dental Radiology	
Credit hours: 2	
Coordinating department: Radiology	
Description The course consists of four major components Fundamental physics of radiology Radiation hazards and protection Dental radiographic techniques Introduction to radiograph interpretation	
Learning objectives Upon completion of this course, the general dental surgeon (G.D.S) will be able to:- Take all intra-oral radiographs Take most of the essential extra-oral radiographs Achieve a fairly good knowledge of radiation protection Get good hold of radiograph interpretation Be encouraged for further qualifications in dental radiology To enable the students to be acquainted with the dental X-ray machine, its uses, the X-ray film, its processing and interpretation of various radiographs in relation to the oral and maxillofacial region and chest. To enable the student to identify the various parts of X-ray machine and their function. To enable the student to list the source of secondary and scattered radiation.	
1.	Production of X-ray beam
2.	Radiation biolog
3.	Processing the film (the dark room) ,specially the dental film its variant sizes and different uses
4.	Film interpretation.
5.	Biology of bone
6.	landmarks of the mandible
7.	land marks of the maxilla
8.	Landmarks of head and neck.
9.	Cephalometric radiographs
10.	Tomography.
11.	CT scan
12.	MRI
13.	TMJ arthroscopy
14.	bone scanning
Learning strategies : LECTURES, SEMINARS& PRACTICALS	
Assessment strategies Continuous assessment 20% MCQS 20% Structural Short Answers (SSA) 20% Extended matching questions and problems solving 20% OSPE 20%	
Resources Dental Radiology text books	

Module title	Professionalism and communication Skills
Credit hours	2
Coordinating department .	
Description Professionalism will be one of the main domains of the medical student curriculum and is continually evaluated. Fitness to assume professional responsibility is demonstrated by maturity, emotional stability, honesty, integrity, showing respect for patient’s dignity and rights, civility, courtesy, appropriate relationships to others, and the ability to accept and discharge the duties of the medical profession.	
Learning objectives Students are expected to demonstrate: a commitment to carrying out professional responsibilities and an adherence to ethical principles compassion, integrity, and respect for others. responsiveness to patient needs that supersedes self-interest. respect for patient privacy and autonomy. accountability to patients, society, and the profession. sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion and disabilities. a commitment to ethical principles pertaining to provision or withholding of care, confidentiality, informed consent, and business practices, including compliance with relevant laws, policies, and regulations	
Week number	Session title
1.	Identify factors influencing human behavior
2.	Define Learning, identify concepts and discuss learning Theories.
3.	Describe Mental functions
4.	Define professional values f) Describe the dimensions of professionalism
5.	Explain the ways and means of planning and managing effectively once own time and activity
6.	Describe the theories and principles that govern ethical decision making
7.	Make a self evaluation of the limitations in knowledge and clinical skills.
8.	Describe the principles of patient consent
9.	Recognize and appropriately respond to ethical issues encountered in practice and research.
10.	Demonstrate a commitment to patients, profession and society through participation in profession -regulation
11.	Professional values and the dimension of professionalism and evidence based medicine.
12.	Time management
13.	Ethical decision making
14.	Patient consent
15.	Ethical issues in practice and research
16.	Profession regulation
17.	Sustaining practice
18.	Self-evaluation regarding limitations in knowledge and skills.
19.	Attitudes and Changes to medical education
	Learning strategies 1 Lectures .2 Seminars 3 Tutorials

	4 Assignments 5 Small group discussion 6 Problem Solving 7 Role Play
	Assessment strategies Attendance and performance continuous assessment Assignments Written Examination MCQs
	Resources Text book of medical education. Text book of professionalism. Introduction of psychology. Electronic library

Semester 6:

Course title	Oral pathology	Module code	
Credit hours	2ch	Semester/ year	Sem 7
Course prerequisites	Anatomy , physiology , biochemistry , dental anatomy , general pathology , radiology , microbiology , pharmacology	Course corequisites	General medicine , general surgery
Description (overview of the course, rationale of teaching it, main objective)	The course introduces the dental students to basic knowledge of diseases in the oral and maxillofacial region, including diseases of teeth, bone, soft tissue, and salivary gland tissue.		
Learning objectives	<p>A student who successfully pass this course should:</p> <ul style="list-style-type: none"> – Classify bone disease and identify their pathogenesis is classification and histopathological features. Describe cysts of jaws bone and soft tissue and their classification, origin, diagnosis. This pathological feature and treatment modalities. Describe odontogenic tumors their classification, origin, clinical presentation diagnosis, his to pathological feature and treatment modalities – Classify premalignant lesions and describe them. Outline types of biopsy their indication and contra indication. – Describe benign tumors of oral cavity their classification, etiological factors and diagnosis. Describe oral cancer clinical presentation, grading, staging, histopathological features, treatment modalities and prognosis. Describe oral ulcerative lesions and their clinical presentation, diagnosis and treatment. Describe salivary gland diseases and classify them and outline their clinical feature, diagnosis, his to pathological feature and treatment modalitie 		

Content				
Week number	Session title	Session details	Session title	Session details
1.	1 st hour cyst of the jaws	Introduction of cyst of the orofacial lesions	2 nd hour cyst of the jaws	classification of cyst of the orofacial lesions
2.	1 st hour inflammatory odontogenic cysts	Clinical presentation „ definition „ and origin	2 nd hour - Developmental odontogenic cysts - Non developmental cysts	Tissue of origin „ definition „ histopathological features
3.	1 st hour tutorial	Developmental odontogenic cyst	2 nd hour - Non odontogenic cysts Nonepithelized cyst - Soft tissue of orofacial reigon cysts	Tissue of origin „ definition „ histopathological features
4.	1 st hour Odontogenic tumors definition and classification	Origin „ histopathoholical features	2 nd hour Odontogenic tumors	
5.	1 st hour Odontogenic tumors		2 nd hour Odontogenic tumors	
6.	Tutorial	Odontogenic tumors	Tutorial	Odontogenic tumors
7.	1st hour ameloblastoma	Definition „ patternes „ histopathological features	2 nd hour ameloblastoma	Definition „ patternes „ histopathological features
8.	1 st hour ameloblastoma		2 nd hour Tutorial	ameloblastoma
9.	1 st hour Tutorial	ameloblastoma	2 nd hour Seminar	ameloblastoma
10.	1 st hour Seminar	ameloblastoma	2 nd hour - Adenomatoid odontogenic tumor -calcifying epithelized odontogenic tumor - squamous odontogenic tumor	Clinical presentation „ histopathoholical features
11.	1st hour - odontogenic fibroma -Odontogenic myxoma	Clinical presentation „ histopathoholical features	2 nd hour - Benigin cementoblastoma Ameloblastic fibroma	Management „ treatment (the same)

			ameloblastic fibro-odontoma Odonto-ameloblastoma	
12.	1st classification of non odontogenic tumors	Bengin non odontogenic tumors -malignant non odontogenic tumors	2 nd bengin non odontogenic tumors	oral epithelial tumors and melanocystic lesions
13.	1st bengin non odontogenic tumors	benign oral pigmented and melanotic lesions , melanotic hyperplasia	2 nd hour bengin connective tissue tumors	-fibroma, lipoma ,chondroma ,osteoma,schwannoma,neurofibroma -hemangioma and vascular malformations
14.	1 st hour malignant connective tissue tumors	Classifications and types	2 nd hour tutorial	malignant connective tissue tumors
15.	1 st hour white lesions introduction and classification	-hereditary keratotic lesions -reactive lesions -infective agents keratotic lesions -immunologically mediated keratotic lesions	2 nd hour tutorial	white lesions
16.	1 st hour premalignant lesions	-leukoplakia -epthelial dysplasia -features of dysplasia	2 nd hour premalignant conditions	-neoplastic keratotic lesions
17.	1st hour oral cancer	definition and etiology	2nd t hour oral cancer	oral squamous cell carcinoma grading and staging
18.	1st hour oral cancer	Oral cancer treatment -role of dentist in preventing oral cancer Malignant melanoma	2nd t hour tutorial	oral cancer
19.	1st hour tutorial	oral cancer	2 nd hour seminar	oral cancer
20.	1st hour seminar	oral cancer		

	<p>Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc</p>	<p>Classroom lectures as power point presentation using a computer, data show and screen Seminars groups presentation on the selected topics. Tutorials: - interactive revision covering all topics of course and slide show by power point.</p>
	<p>Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc</p>	<p>Written exams OSCI</p>
	<p>Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc</p>	<p>REGZI TEXT BOOK</p>

Course title	Oral pathology	Module code	
Credit hours	2CH	Semester/ year	SEM 8
Course prerequisites	Anatomy , physiology , biochemistry , dental anatomy , general pathology , radiology , microbiology , pharmacology	Course corequisites	General medicine , general surgery
Description (overview of the course, rationale of teaching it, main objective)	The course introduces the dental students to basic knowledge of diseases in the oral and maxillofacial region, including diseases of teeth, bone, soft tissue, and salivary gland tissue.		
Learning objectives	<p>A student who successfully pass this course should:</p> <ul style="list-style-type: none"> – Classify bone disease and identify their pathogenesis is classification and histopathological features. Describe cysts of jaws bone and soft tissue and their classification, origin, diagnosis. This pathological feature and treatment modalities. Describe odontogenic tumors their classification, origin, clinical presentation diagnosis, his to pathological feature and treatment modalities. Classify premalignant lesions and describe them. Outline types of biopsy their indication and contra indication. Describe benign tumors of oral cavity their classification, etiological factors and diagnosis. Describe oral cancer clinical presentation, grading, staging, histopathological features, treatment – Describe salivary gland diseases and classify them and outline their clinical feature, diagnosis, his to pathological feature and treatment modalities. 		

Content				
Week number	Session title	Session details	Session title	Session details
1.	1 st hour biopsy	Biopsy indications Biopsy techniques	2 nd hour tutorial	biopsy
2.	1 st hour bone diseases	Introducation of bone diseases	2 nd hour bone diseases	Classification of bone diseases
3.	1 st hour bone diseases	Inflammatory bone diseases Types and clinical presentation	2 nd hour bone diseases	Inflammatory bone disease
4.	1 st hour bone diseases	Inflammatory bone diseases	1 st hour tutorial	Inflammatory bone diseases
5.	2 nd hour tutorial	Inflammatory bone diseases	1 st hour seminar	Inflammatory bone diseases
6.	1 st hour seminar	Inflammatory bone diseases	2 nd hour bone diseases	Genetic bone diseases Types and clinical presentation
7.	1 st hour bone diseases	Developmental bone diseases Types and clinical presentation	2 nd hour bone diseases	Metabolic bone diseases Types and clinical presentation
8.	1 st hour bone diseases	Hormonal bone diseases Types and clinical presentation	2 nd hour bone diseases	Dystrophic bone diseases -osteomyelites and types
9.	1 st hour bone diseases	Fibro-osseous lesions of the jaws definition and classification	2 nd hour Cementifying ossifying fibroma -fibrous dysplasia	Clinical presentation and histopathological features
10.	1st hour Reactive fibro-osseous lesions	-Clinical presentation and histopathological features	1 st hour tutorial	Reactive fibro-osseous lesions
11.	1 st hour Giant cell lesions	Definition and classification	2 nd hour tutorial	Giant cell lesions
12.	1st hour oral ulcers	Primary ulcers	2 nd hour oral ulcers	Primary ulcers -types and histopathological features
13.	1st hour oral ulcers	Primary ulcers	2 nd hour tutorial	Primary ulcers
14.	1st hour tutorial	Primary ulcers	2 nd hour seminar	Primary ulcers
15.	1st hour seminar	Primary ulcers	2 nd hour oral ulcers	Secondary ulcers -types and histopathological features

16.	1st hour tutorial	Secondary ulcers	2 nd hour salivary gland diseases	Introduction and classification
17.	1st hour autoimmune salivary gland diseases	Sjorgen syndrome -clinical presentation	2 nd hour salivary gland tumors	Classification of salivary gland tumors Benign salivary gland tumors -classification and clinical presentation
18.	1st hour salivary gland tumors	Benign salivary gland tumors	2 nd hour salivary gland tumors	Benign salivary gland tumors
19.	1st hour tutorial	Benign salivary gland tumors	2 nd hour tutorial	Benign salivary gland tumors
20.	1st hour seminar	Benign salivary gland tumors	2 nd hour seminar	Benign salivary gland tumors
21.	2 nd hour salivary gland tumors	Malignant salivary gland tumors -classification and clinical presentation	2 nd hour tutorial	Malignant salivary gland tumors

	<p>Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc</p>	<p>Classroom lectures as power point presentation using a computer, data show and screen Seminars groups presentation on the selected topics. Tutorials: - interactive revision covering all topics of course and slide show by power point.</p>
	<p>Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc</p>	<p>Written exams OSCI</p>
	<p>Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc</p>	<p>REGZI TEXT BOOK</p>

Course Title: Preclinical Paediatric Dentistry Course duration:

15 weeks

1 hour lectures – 3 hours practical (1 + 1 = 2 credit hours)

Specific Course Objectives:

The student should:

- 1) Have good understanding about the scope of Paediatric Dentistry, normal growth and development in children in general with emphasis on the craniofacial area and the dentition.
- 2) Have enough knowledge about caries and prevention in children and adolescents.
- 3) Have good knowledge about the principles of restorations in paediatric dentistry.

Skill objectives:

- 1) Demonstration on artificial or extracted teeth the morphological differences between the primary & the permanent dentition with emphasis on the anatomy of each.
- 2) Principles of Tooth Preparation and Anatomic Considerations.
- 3) Application of topical fluoride and instructions given to patient.
- 4) Selection of tooth for fissure sealant and its application on artificial teeth preclinically.

Contents

Theoretical course contents (and method of instructions)

- 1) Introduction to Pediatric Dentistry: **lecture**
 - a) Definition of pediatric dentistry.
 - b) Aims and objectives.
 - c) Scope of pediatric dentistry.
- 2) Growth and Development: **lecture**
 - a) Introduction and Definition.
 - b) Theories and parameters of human growth
 - c) Growth and development of the craniofacial complex
- 3) Tooth Development: **Seminar**
 - a) Life cycle of the tooth
 - b) Chronology of primary and permanent dentition
- 4) Cariology 1: **lecture**
 - a) Etiology
 - b) Classification
- 5) Cariology 2: **Problem based**
 - a) Diagnosis
 - b) Caries Risk Assessment
- 6) Early Childhood Caries (ECC): **lecture**
 - a) Definition and clinical presentation,
 - b) Prevalence and aetiology
- 7) Early Childhood Caries (ECC): **Problem based** Prevention and management
- 8) Prevention of Dental Caries 1: **Problem based**
 - a) Mechanical and chemotherapeutic home oral hygiene
 - b) Dietary Considerations.
- 9) Prevention of Dental Caries 2: **Problem based**
 - a) Role of fluorides in prevention of dental caries
 - b) Types and application of Fluorides.
- 10) Prevention of Dental Caries 3: **Problem based**
 - a) Fissure sealants
 - b) Preventive resin restorations.
- 11) Restorative procedures in Paediatric Dentistry (1): **lecture**

- a) Considerations regarding restorative dental materials
- b) Isolation.
- 12) Restorative procedures in Paediatric Dentistry (2): **lecture**
- a) Restoration of primary posterior teeth and stainless steel crowns
- 13) Restorative procedures in Paediatric Dentistry (3): **lecture**
- a) Restoration of primary anterior teeth.
- 14) Restorative procedures in Paediatric Dentistry (4): **Seminar**
- a) Minimum Intervention Dentistry.
- b) New techniques
- 15) Ethics and consent: **Problem based**
- a) Decisions about children's dental care and the clinician ethical responsibility
- b) Documentation
- c) Consents

Preclinical Contents of the course: (Phantom head lab.)

- 1) Demonstration on the morphological differences between the primary and the permanent dentition with emphasis on the anatomy of each of the deciduous teeth.
- 2) Designing preventive programs for children considering different age groups (infants and toddlers, preschool, school aged children and adolescents):
- a) Oral hygiene instructions and parental counseling
- b) Diet analysis and diet counseling
- c) Applications of Fluorides.
- 3) Application of fissure sealants on artificial teeth.
- 4) Cavity preparation and application of preventive resin restorations.
- 5) Uses and applications of different restorative materials including glass ionomer cement, hybrid ionomer, composite and amalgam.
- 6) Class I cavity preparation in primary teeth (with emphasis on the differences to cavity preparation in permanent teeth).
- 7) Class II cavity preparation and matrix placement in primary teeth (with emphasis on the differences to cavity preparation in permanent teeth).
- 8) Application of rubber dam.

Methods of instruction:

- Lectures
- Seminars
- Small group discussion
- Problem based learning
- Clinical instruction

Method of assessment and evaluation

- 1. Written examination (test): 40 %
- 2. Objective Structured Practical Examination (OSPE): 30 %
- 3. Student's portfolio: 30 %

Suggested Readings and References

- 1) Richard Welbury, Monty S. Duggal, Marie Therese Hosey Paediatric Dentistry.
- 2) R.J. Andlaw, W. Rock
A Manual of Pediatric Dentistry.
- 3) Angus Cameron, Richard Widmer Handbook of Paediatric Dentistry.
- 4) Casamassimo, Fields, Mctigue and Nowak Pediatric Dentistry: Infancy through Adolescence.
- 5) Jeffry A. Dean
McDonald and Avery's Dentistry for the Child and Adolescent.

Module title Preclinical Periodontology	
Credit hours 2	
Coordinating department Periodontology	
<p>Description. Study of normal periodontium to include the structural, functional, components of the gingiva and attachment apparatus. Develop an understanding of the clinical significance of the tissues of the periodontium, including the anatomy and histology of these tissues</p>	
<p>Learning objectives By the end of this course the student should be able to: Student will develop an understanding of the clinical significance of the tissues of the periodontium, including the anatomy and histology of these tissues. Student will able to define basic immunology and defense mechanism of the oral cavity and the gingiva.</p>	
Topics	Method of Instruction
Gingiva	through lecture, slide presentations, and teaching models are used to support classroom activities.
Periodontal Ligament	through lecture, slide presentations
Root cementum	through lecture, slide presentations and extracted teeth will be used in order to demonstrate the different types of cementum and their location.
Alveolar bone	through lecture, slide presentations and periapical radiograph
Dentogingival Junction	through lecture, slide presentations.
Oral environment in health and normal defense mechanism of the gingiva.	through lecture, slide presentations.
Saliva	through lecture, slide presentations.
GCF	through lecture, slide presentations.

Methods of Assessment:

- Quizzes.
- Final exams composed of MCQs, Fill in space and Essays.

PRE CLINICAL ENDODONTICS:

Course Design Template for the Pre-Clinical Endodontics Course

Course credits: 2

Course Length: 1 Semester

Course Instructor: Dr.....

Course Meeting Time and Location:

Course Overview:

Endodontics is that branch of Dentistry concerned with the morphology, physiology and pathology of the dental pulp and the peri-radicular tissues together with management and prevention of these conditions.

This is a comprehensive theoretically and practically oriented course designed to expose the dental student to the variety of philosophies, materials and techniques in endodontics. In addition to didactic courses, this course will provide a combination of visual and technical experiences that will enhance effective learning.

Course Objectives:

The theoretical and practical part of the preclinical endodontic course enables the students to learn and perform the followings:

- 1- The scope and indications of Endodontics
- 2- Develop a mental three dimensional image on the internal tooth anatomy
- 3- Learn the biologic and mechanical principles of Endodontics
- 4- Describe the internal and external dental anatomy and discuss the pulpal biology, microbiology, and immuno-pathology
- 5- Describe instruments used in the different endodontic procedures
- 6- Describe and perform the access cavity for the teeth with their different anatomical forms
- 7- Learn and conduct the different biomechanical procedures for canal cleaning and preparation

The course will have two main components:

1. Classroom lecture series, which correlates clinical with biological principles of endodontics.
2. Laboratory exercises to perform endodontic treatment on mounted extracted human teeth.

The laboratory part of this course will provide first hand-on endodontic

1. Preclinical training and experience utilizing extracted human teeth.
- 2-The course presents demonstrations on the endodontic components of radiographic interpretation, access preparation, root canal negotiation, tooth length determination, preparation, and obturation of the root canal systems.
- 3-After attending and practicing this lab course, the student will be able to master the technical procedures in root canal therapy on mounted extracted teeth and transparent teeth.

Course Prerequisites:

As a prerequisite to or in conjunction with endodontic training, the student should have knowledge of oral anatomy and histology; infection, inflammation, healing, and repair; microbiology and immunology; pain; radiology; caries and other pulpal irritants; therapeutic agents; systemic diseases; medical emergencies; and management of medically compromised patients.

Course Objectives

By the end of this course the undergraduate candidates should know

1. Rationale and scope of endodontic treatment
2. Anatomy of the pulp cavity: root canals apical foramen. Anomalies of pulp cavities access cavity preparation of anterior and premolar teeth.
3. Principles of root canal treatment mouth preparation root canal instruments, hand instruments, power driven instruments, standardization color coding principle of using endodontic instruments.
4. Sterilization of root canal instruments and materials.
5. Bio mechanical Preparation of root canal space

6. Determination of working length,
7. Cleaning and shaping of root canals.
8. Irrigating solution chemical aids to instrumentation.
9. Disinfection of root canal space and intra-canal medicaments.
9. Root canal sealers. Ideal properties classification. Manipulation of root canal sealers.
10. Obturation of the root canal system. Requirements of an ideal root canal filling material obturation methods, materials, and technique

COURSE MATERIALS

Phantom heads, low speed hand pieces, Transparent plastic teeth, burs, files, gutta-percha, Extracted teeth

COURSE SCHEDULE:

Week	Topic Name and Learning Objectives	Instructional Methods
1	<p>Introduction and scope of Endodontics</p> <p>Objective: To give the under graduate a general idea about the definition and scope of endodontics</p>	
2-4	<p>Internal tooth anatomy and morphology</p> <ul style="list-style-type: none"> -Define pulp space and list and describe its major component -List each tooth type, the average length, number of roots, canals and most common root curvatures . -Characterize the more frequent variations in roots and pulp anatomy of each tooth. 	
5-7	<p>Basic Instrumentation in Endodontics</p> <ul style="list-style-type: none"> -Define a basic set of instruments appropriate for Diagnosis , emergency treatment ,canal preparation and obturation. -Describe the design of the more common canal preparation instruments and their mode of action and explain the basis of taper and sizing . <p>Define the differences between stain less steel and nickel titanium Describe the action and use of rotary systems for cleaning and shaping</p>	
8-10	<p>Access cavity Preparation</p> <ul style="list-style-type: none"> -Identify the objectives of access cavity preparation and why it is critical. -Describe the technique ,burs of access cavity for each tooth in the arch how to de roof and locate the canals. 	
10,11	<p>Working length Determination</p> <p>Define the apical stop ,the radiographic apex and the open apex</p> <p>Define how to determine the appropriate size of the initial file.</p> <p>Describe how to measure Wl</p> <p>Methods of wl Determination</p> <p>The radiographs views for wl determination</p>	

Week	Topic Name and Learning Objectives	Instructional Methods
12-14	<p>Bio mechanical preparation Describe the objective of bio mechanical preparation . Describe the approaches for cleaning and shaping Describe techniques for cleaning and shaping.</p>	
15,16	<p>Root canal irrigant List the properties for ideal irrigant Discuss the importance of irrigation Describe the technique for efficient irrigation. Define the most commonly used irrigants and its effect.</p>	
17	<p>Intra canal medicament Discuss the property and role of inta canal medicament. List the commonly used medicaments ,composition, effect.</p>	
18-20	<p>Obturation techniques and materials Recognize the clinical criteria that determin when to obdurate. Explain why do we need obturation Define The obturation materialand its types Explain how to obturate and describe each technique Discuss the clinical and radiographic criteria for evaluation of obturation.</p>	
.21,22, 23	<p>History diagnosis and treatment planning The undergraduate curriculum of endodontic must prepare the students to: 1. Prevent and diagnose diseases of the pulp and periradicular area. 2. Identify and determine etiological factors responsible for pulpal and periradicular diseases 3. Identify based on diagnosis and etiology, those factors which may affect the complexity of the anticipated treatment</p>	

Assessment:

Assessment Type	Percentage
Mid term exam	
Practical	
Final exam	
practical	
Attendance	

References:

- Pathway of the Pulp by: Cohen & Hargreaves, 9th edition, 2006
- Endodontic by: Ingle & Bakland, 6th edition, 2007
- Problem solving in Endodontics by :Gutmann et al, 4rd ed. (2005)
- Endodontics, principles and practice by: Torabinejad & Walton, 4th edition, 2009

REMOVABLE PROSTHODONTICS 1:

Course title	Clinical Removable Partial Prosthodontics (RPD)	24. Module code	
Credit hours		25. Semester/ year	8
Course prerequisites	Pre-clinical removable partial prosthodontics	26. Course corequisites	
Description (overview of the course, rationale of teaching it, main objective)	To familiarize the student with clinical management of edentulous and partially edentulous patients, through teaching basic clinical procedures and their integration with the procedures taught in the pre-clinical course, and to provide students with a sensible knowledge about dental implantology and its place in Prosthodontic management.		
Learning objectives	<p>A student who successfully pass this course should:</p> <ol style="list-style-type: none"> 1. competent in the basic scientific knowledge pertaining to the treatment of edentulous and partially edentulous patients. 2. Proficient in the clinical management of uncomplicated cases requiring complete and conventional removable partial dentures. 3. Have a good knowledge about the principle of Osseointegration. 4. Know the anatomical structures of significance in implant insertion. 5. Be familiar with the necessary steps for the planning of a single tooth implant replacement as well as the planning necessary for an implant supported overdenture. 6. Able to critically appraise the quality of prosthetic laboratory work 7. To develop interest for research and participation in research activities 8. To treat all patients with equity and respect. 9. To develop attitude for ethical practice & perfect patient care and management. 		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Introduction and terminology(L)	Introduction to rpd, different types according to material used e.g. acrylic dentures, metallic and flexible dentures	CLINIC 0.5 CH	Students will start clinical work on patients. They should examine the patient and fill the history sheet.
	0.5 C H (T/S/P)			
2.	Phases of partial denture prosthodontics(L)	Phase one: education of the patient. Phase two: History, examination, diagnosis and treatment plan. Phase three: support for distal extension. Phase four: Establishment of occlusal relationship. Phase five: denture insertion. Phases six: recall visit.	CLINIC 0.5 CH	
3.	Biomechanics of Removable Partial Prosthodontics(L)	Application of biology and physics laws in RPD	CLINIC 0.5 CH	
4.	Surveyor and Surveying (L)	Review of surveyor and surveying	CLINIC 0.5 CH	
	Surveyor and Surveying (p)	Each student will prepare cast and practice the procedure of surveying.		
5.	RPD] design(L)	Differentiation between two types of rpd: tooth supported and tooth tissue supported rpd	CLINIC 0.5 CH	
	RPD] design(P)			
6.	RPD] design(L)	Step by step how to design an rpd	CLINIC 0.5 CH	

7.	Diagnosis and treatment planning (L)	Evaluation of partially edentulous patient. History and examination. Diagnosis and treatment plan	CLINIC 0.5 CH	
8.	Mouth preparation for [RPD](L)	Surgical preparation Periodontal preparation Conservative preparation Preparation of the abutment tooth.	CLINIC 0.5 CH	
	Mouth preparation for [RPD](T)	Surgical preparation Periodontal preparation Conservative preparation Preparation of the abutment tooth.		
9.	Impression techniques(L)	Mucocompressive imp tech Mucostatic imp tech Selective. Altered cast tech	CLINIC 0.5 CH	
	Impression techniques(T)	Mucocompressive imp tech Mucostatic imp tech Selective. Altered cast tech		
10.	Support for distal extension [RPD] (L)	Factors which affect support for distal extension: Bone quality and quantity Amount of tissue covering the ridge. Adaptation of the denture base. Maximum coverage of foundation. Design factor.	CLINIC 0.5 CH	
11.	Laboratory procedure for framework construction (L)	Review of the steps: Preparation of the master cast. Steps done on the refractory cast. Finishing and polishing of the framework.	CLINIC 0.5 CH	

	Laboratory procedure for framework construction P)	Demonstration of metal framework construction is done by the lap technician		
12.	Maxillomandibular relationship(L)	Vertical relation. Horizontal jaw relation. Orientation relation	CLINIC 0.5 CH	
13.	Establishment of occlusal relationship (L)	Objectives of recording occlusal relation. Occlusion in natural teeth. Balance occlusion	CLINIC 0.5 CH	
14.	Try-in stage (L)	Extra oral examination. Intraoral examination	CLINIC 0.5 CH	
15.	Denture insertion, instructions and recall visits (L)	Delivering the denture to the patient. Adjustment of the denture. Post insertion instruction	CLINIC 0.5 CH	

	<p>Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practical, clinical work, assignment, .., etc</p>	<p>Lectures clinical tutorials practical</p>
	<p>Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc</p>	<p>written ,oral ,practical exam, and OSPE</p>
	<p>Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc</p>	<p>Stewart's Clinical Removable Prosthodontics. 4th Edition. Quintessence Publishing Co, Inc. McCracken's Removable Prosthodontics, 11th Edition 2004 by McGivney GP, Carr AB.</p>

ORAL & MAXILLOFACIAL SURGERY I, II&III:

Course Code:

Course credits: hrs

Course Length: = 45 weeks

Course Instructors:

Staff of OMFS dept.

Course Overview:

The course will provide the student with the abilities to describe the general principles of oral and maxillofacial surgery, diagnose and manage common surgical oral and dento-alveolar conditions and refer as appropriate.

Prerequisites:

For OMFS :

Basic sciences

General Medicine

General Surgery

Oral pathology

Course Objectives:

i. Knowledge:

At the end of the course and the clinical training the graduate is expected to be:

- (1) Able to apply the knowledge gained in the preclinical subjects and related medical subjects like general surgery and general medicine in the management of patients with oral surgical problem.
- (2) Able to diagnose, manage and treat (understand the principles of treatment of patients with oral surgical problems.
- (3) Have knowledge of range of surgical treatments.
- (4) Able to decide the requirement of a patient to have oral surgical specialist opinion or treatment.
- (5) Understand the principles of in-patient management.
- (6) Understand the principles of emergency management of maxillofacial injuries, BLS measures and the medico legal responsibilities and formalities.
- (7) Understanding of the management of major oral surgical procedures and principles involved in patient management.
- (8) Be able to decide the need for medical/ surgical consultations and the method of doing so.
- (9) Should know ethical issues related to OMFS and have optimum communication ability.
- (10) Should know the common systemic and local diseases, drugs used and drug interactions

ii. Skills:

A graduate should have acquired the skill to:

- (1) Examine any patient with an oral surgical problem in an orderly manner.
- (2) Be able to understand requisition of various clinical and laboratory investigations and is capable of formulating differential diagnosis.
- (3) Should be competent in the extraction of teeth under both local and general anesthesia. (4) Ability to assess, prevent and manage various complications during and after surgery.
- (5) Able to provide primary care and manage medical emergencies in the dental office.
- (6) Understanding of the management of major oral surgical problems and principles involved in-patient management.
- (7) Should be competent in measures necessary for homeostasis and wound closures.

Modes of Assessment

The mode of Assessments should employ both formative and summative methods with emphasis on clinical aspects that encourage problem solving skills as far as possible.

a. Continuous Assessment (Formative)

- i) Log of experiences and procedures done
- ii) Case reports and portfolios
- ii) Project reports
- iv) Regular course examinations: written, practicals, clinical and viva voce
- v) Attitudinal assessment

b. University End of Year Examinations (Summative)

- i) Written
- ii) Clinical
- iii) Practical
- iv) Viva voce

No.	Topics	Description	Hours	Inst.M
	Topics for III Year			
1.	Introduction	Definition, scope, aims and objectives. Diagnosis in oral surgery: History taking, Clinical examination, Investigations. Principles of infection control and cross-infection control with particular reference to HIV/AIDS and Hepatitis.	1	LECT
		1) Asepsis: Definition Measures to prevent introduction of infection during Surgery. Preparation of the patient, Measures to be taken by operator, Sterilization of instruments - various methods of sterilization etc., Principles and need for cleaning of infected/ used instruments prior to re sterilization Surgery set up. Painless Surgery: 2) Pre- anesthetic considerations Pre-medication: purpose, drugs used Anesthetic considerations a) Local b) Local with IV sedations Use of general anesthetic Access: Intra-oral: Mucoperiosteal flaps, principles, commonly used 3) intraoral incisions. Bone Removal: Methods of bone removal. Use of Burs: Advantages & precautions Bone cutting instruments: Principles of using chisel		LECT

2.	Principles of Oral Surgery	<p>& osteotome. Extra-oral. Skin <i>incisions - principles, various extra-oral incision to expose facial skeleton.</i> a) Submandibular b) Pre auricular Incision for TMJ, Access to maxilla & orbit, Bi coronal incision</p> <p>Control of hemorrhage during surgery</p> <p>4) Normal Hemostasis Local measures available to control bleeding Hypotensive anesthesia etc. Drainage & Debridement</p> <p>5) Purpose of drainage in surgical wounds Types of drains used Debridement: purpose, soft tissue & bone debridement. Closure of wounds</p> <p>6) Type wounds, Classification of wounds Suturing: Principles Suture material: Classification, ideal requirements Body response and restorability of various materials etc. Post-operative care</p> <p>7) Post-operative instructions Physiology of cold and heat in the control of pain and swelling Analgesics and anti-inflammatory drugs in the control of pain and swelling Control of infection – antibiotics, principles of antibiotic therapy, prevention of antibiotic abuse Long term post operative follow up - significance.</p>	4	SGW DEMO
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3.	Local Anesthesia	<p>Introduction and Neurophysiology Concept of LA Classification of local anesthetic agents' Ideal requirements Mechanism of action Armamentarium required Types of local anesthesia Use of vaso constrictors in local anesthetic solution - Advantages, contra-indications, Various vaso constrictors used. Anesthesia of the mandible -Pterygomandibular space - boundaries, contents etc. Intra oral and extra oral techniques of Inferior Alveolar Nerve Block, Mandibular Nerve Block, Mental Nerve Block, Infiltrations, etc. Anesthesia of Maxilla – Infiltrations, Infra - orbital nerve block, Posterior superior alveolar nerve block, Infiltrations, Maxillary nerve block – Intra oral and extra oral Techniques Complications of local anesthesia- local and systemic Disposal of sharp instruments</p>	5	LECT DEMO SGW SEM
4.	General Anesthesia	<p>Concept of general anesthesia. Indications of general anesthesia in dentistry. Pre-anesthetic evaluation of the patient. Pre-anesthetic medication - advantages, drugs used. Conscious sedation Commonly used anesthetic <i>agents</i>. Complication during and after G.A. I.V. sedation with Diazepam and Midazolam. Indications, mode of action, technique etc. Cardiopulmonary resuscitation Use of oxygen and emergency drugs. Tracheostomy.</p>	2	LECT DEMO

5.	Exodontia	<p>General considerations Ideal Extraction. Indications/ contra indications for extraction of teeth Extractions in medically compromised patients. Methods of extraction Forceps or intra-alveolar or closed method. Principles, types of movement, force, role of left hand etc. Trans-alveolar, surgical or open method Indications, surgical procedure. Dental elevators, uses, classification, principles in the use of elevators, commonly used elevators. Armamentarium Complications Complications during exodontia Common to both maxilla and mandible. Post-operative complications Prevention and management of complications.</p>	4	LECT DEMO SGW SEM
6.	Medical Emergencies in dental practice	<p>Primary care of medical emergencies in dental practice (a) Cardio vascular (b) Respiratory (c) Endocrine (d) Anaphylactic reaction (e) Epilepsy Basic Life Support</p>	3	LECT DEMO SGW
7.	Emergency drugs & Intra muscular and I.V. Injections	<p>Emergency drugs required in a dental clinic Applied anatomy. Sites for intra muscular and intra venous injections, techniques etc.</p>	1	DEMO SGW
Topics for Final year-Part 1				
8.	Impacted teeth	<p>Incidence, definition, etiology. Impacted mandibular third molar Classification, reasons for removal Assessment - both clinical & radiological. Armamentarium and surgical procedures for removal. Complications during and after removal, its prevention and management. Maxillary third molar, Indications for removal, classification, Armamentarium and surgical procedure for removal, Complications duringand</p>	4	LECT SEM TBL

		after removal, its prevention and management. iv. Impacted maxillary canine. Reasons for canine impaction, indications for removal, Methods of management, Localization, labial and palatal approaches, Complications during and after removal, its prevention and management Surgical exposure, Transplantation		DEMO
9.	Neurological Diseases	i. Trigeminal neuralgia - definition, etiology, clinical features and methods of management including medical and surgical. ii. Facial paralysis - etiology, clinical features. iii. Nerve injuries - Classification, clinical features and management, Nerve Grafting - Neuropathy etc.	3	LECT
10.	Implants	Concept of Osseointegration, History of implants their design & surface characteristics. Knowledge of various types of implants, Bone biology, Morphology, Classification of bone and its relevance to implant placement. Bone augmentation materials. Soft tissue considerations in implant dentistry. Surgical procedure to place implants.	2	LECT DEMO
11.	Diseases of the maxillary sinus	Surgical anatomy and development of the sinus. Sinusitis both acute and chronic Surgical approach of sinus - Caldwell-Luc procedure, Knowledge of FESS, Removal of root from the sinus.	2	LECT PBL
12.	of the mouth and jaws	Definition, classification, pathogenesis. Diagnosis - Clinical features, radiological, FNAC, use of contrast media and histopathology. Management - types of surgical procedures. Rationale of the techniques, indications, contraindications, procedures, complications etc.	4	TBL SEM PBL
13.	Jaw deformities	Basic forms - Prognathism, Retrognathism and open bite. Reasons for correction. Diagnosis and treatment planning Outline of surgical methods carried out on mandible and maxilla- subapical, body, sagittal split osteotomy, genioplasty, anterior maxillary	3	LECT DEMO
14.	Pre-prosthetic Surgery	Definition Classification of procedures Corrective procedures: Alveoplasty, Reduction of maxillary tuberosity, Frenectomies and removal of tori. Ridge extension or Sulcus extension procedures,	2	LECT
Topics for Final year - Part II				

15.	Cleft Lip and Palate	Etiology of the clefts, incidence, classification Role of dental surgeon/ maxillofacial surgeon in the cleft team. Outline of the closure procedures,	1	LECT
16.	Infections of the Oral cavity	Introduction, surgical anatomy of the superficial and deep fasciae of head and neck Factors responsible for infection, pathogenicity, virulence Dento-alveolar abscess - etiology, clinical features and management. Spread of odontogenic infections through various facial spaces and its management Ludwig's angina - definition, aetiology, clinical features, management and complications Course of odontogenic infections	6	LECT SEM DEMO
17.	Fungal Infections of head and neck region	Candidiasis, Actinomycosis, Coccidioidmycosis, Rhinosporidosis, Antifungal agents	1	LEC
18.	Myelitis of the jaws	Definition, etiology, pre-disposing factors, classification, clinical features and management.	1	LEC

19.	Carcinoma of the oral cavity	Lymphatic Spread. TNM classification, Staging. Biopsy-types, filling of Histopathology request form Outline of management of Squamous Cell Carcinoma: surgery, radiation and chemotherapy Role of dental surgeons in the prevention and early detection of oral cancer.	2	LECT TBL
20.	Osteoradionecrosis -	Definition, etiology, theories, pre-disposing factors, classification, clinical features and management.	1	LECT
21.	Maxillofacial Traumatology	Emergency management in maxillofacial trauma General considerations, types of fractures, aetiology, clinical features and general principles of management. Mandibular fractures - Applied anatomy, classification. Diagnosis - Clinical and radiological features, Management - Reduction - closed and open Fixation and immobilization methods outline of rigid and semi-rigid internal fixation Fractures of the condyle - etiology, classification, clinical features, principles of management Fractures of the middle third of the face. Definition of the mid face, applied surgical anatomy, classification, clinical features and outline of management. Alveolar fractures - methods of management Fractures of the Zygomatic complex and orbit. Classification, clinical features, indications for treatment, various methods of reduction and fixation Faciomaxillary Injuries in Children Complications of fractures - delayed union, non-union and malunion.	7	LECT SEM DEMO
22.	Salivary gland diseases	Surgical Anatomy of Minor and Major salivary glands Sialography, contrast media, procedure. Inflammatory conditions of the salivary glands Sialolithiasis- Sub mandibular duct and gland, parotid duct and gland, Clinical features, management, Intraoral and extra oral Sialolithotomy. Salivary fistulae, sialocele Autoimmune diseases of the salivary glands, diagnosis management Common tumors of salivary glands like Pleomorphic adenoma including minor salivary glands.	3	LECT TBL

23.	Tumors of the Oral cavity	<p>General considerations, surgical principles</p> <p>Non odontogenic benign tumours occurring in oral cavity - fibroma, papilloma, lipoma, ossifying fibroma, myxoma etc. Odontogenic tumors: both benign and malignant.</p> <p>Ameloblastoma - Clinical features, radiological appearance and methods of management.</p> <p>Osteogenic tumours of the faciomaxillary region.</p>	4	LECT TBL PBL
24.	Disorders of T.M. Joint	<p>Applied surgical anatomy of the joint.</p> <p>Development of the TMJ</p> <p>Surgical approaches to TM.J Radiological investigations</p> <p>Hypermobility of TMJ; Dislocation - Types, aetiology, clinical features and management.</p> <p>Hypo mobility of TMJ; Classification, Ankylosis - Definition, aetiology, clinical features and management</p> <p>Myo-facial pain dysfunction syndrome, etiology, clinical features, management-</p> <p>Non-surgical and surgical. Internal derangement of the joint.</p> <p>Inflammatory Diseases of T.M. Joint. Arthroscopy</p>	4	LECT SEM

Clinical and Academic Requirements:

- i. Case Taking: Detailed clinical examinations, investigations and diagnosis – 10 nos.
 - ii. Dental extractions under local anesthesia – 300nos.
 - iii. Suturing of extraction wound -5nos
 - iv. Incision and drainage – 3nos.
 - v. Arch bar wiring, eyelet wiring and intermaxillary fixation on plaster or acrylic models- 1 each
 - vi. IV/ IM injection technique on patients- 5 noeach
 - vii. Wound dressing – 5nos.
 - viii. Observing minor surgery done by staff member- 5nos
 - ix. Surgical Assistance of minor surgeries- 5nos.
 - x. Observation of major surgeries in Operation Theatre- 3nos.
 - xi. Observation of surgical procedures performed in casualty– 5nos.
 - xii. Training in handling medical emergencies. CPR and basic life-support
 - xiii. Seminars: 6 nos. Two in the third year, Two in the fourth year and Two in the final year
- A work record should be maintained by all students detailing each of the clinical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department.

f) Clinical Requirements Year wise:

Sl. No.	Topic	Procedures in IV Year	Quota: Must do
1	Case Taking	Detailed clinical examinations, investigations and diagnosis	2 cases
2	Dental Extraction	Extraction of anterior and mobile teeth under LA : Infiltration only	60 cases
3	Seminars	Seminars on basic subjects, local anesthesia, investigative procedures, exodontiaetc.	2 no.
	Injection	IV/ IM injection technique on patients-	5nos.each
4	Observation	Observing minor surgery under LA done by staff member	2 cases
Procedures in Final year (Part I)			
1	Case Taking	Detailed clinical examinations, investigations and diagnosis	3 cases
2	Dental Extraction	Extraction of anterior and posterior teeth under LA : Infiltration and blocks	100 cases
3	Suturing	Suturing of extraction wound	5 no.
4	Seminars	Seminars on oral surgery subjects, cross contamination and infection, impactions, medically compromised	2 no.
5	Observation	Observing minor surgery under LA done by staff member	3 cases
6	Assistance	Assistance of minor surgery under LA done by staff member	2 cases
7	Observation	Observation of cases managed in the casualty	2 cases

8	Skill development	Wiring procedures in models	3 nos.
Procedures in Final year (Part II)			
1	Case Taking	Detailed clinical examinations, investigations and diagnosis	5 cases
2	Dental Extraction	Extraction of anterior and posterior teeth under LA : Infiltration and blocks	140 cases
3	Seminars	Seminars on oral surgery subjects like TMJ, Tumors, Maxillofacial injuries, Infections, Salivary Gland	2 no.
		diseases and Medico-legal considerations	
4	Observation	Observation of major surgery under GA done in the OT	3 cases
5	Assistance	Assistance of minor surgery under LA done by staff	3cases
6	Procedure	Incision and drainage	3
7	Procedure	Wound dressing	5
8	Observation	Observation of cases managed in the casualty	3 cases

i) SCHEME OF EXAMINATION

Distribution of Topics and Types of Questions for University Written Examination:

Contents	Types of Questions and Distribution of Marks	Total Marks
One Question From Local Anaesthesia One Question From Oral Surgery	Structured Essays 2x 14marks	28
Eight Question From Oral Surgery, One Question From Local Anaesthesia, One Question From General Anaesthesia	Brief structured Essays 4 x 8marks	32
Questions from any of the Oral & Maxillofacial Surgery topics.	Short Answers 10x4marks	40
	Total	100

v. Theory

University Written 100Marks
 Internal Assessment 25Marks
 Viva Voce: 25Marks

vi. Clinical:

University Clinical Examination: 80Marks on of Extraction of mobile (Maxillary/Mandibular)

Case History 20Marks

Local Anaesthesia technique 25Marks
 ExtracExtraction of firm

tooth & patient management 25Marks
 Clinical Work Record

Seminar 10Marks

Internal Assessment: 20Marks

Grand Total

 250Marks

Course Title: Clinical Operative Dentistry (1)

Course Design Template for Clinical Operative Dentistry Course

Course credits: 2hrs (1+1) for Each Semester

Course Length: 2 Semesters

Course Instructor: Dr.

Course Meeting Time and Location: Lecture Rooms, Seminar Rooms and Dental Clinics, at the Faculty of Dentistry; ElRazi University.

Course Description

1. This is the first clinical operative course that builds in the preceding principles and techniques already presented in the pre-clinical courses while expanding the area of diagnosis and treatment planning. Attention is given to efficient utilization of the clinical facilities and the need for proper patient record and clinical record systems.

2. The students are expected to carry out simple restorative procedures under close staff supervision.

General objectives:

By the end of this course the student should be able to:

- The primary objectives of this course are to enable the student to be able to diagnose dental conditions with relevance to Operative Dentistry.
- To follow the proper standards of infection control.
- To administer basic pain control measures for patients.
- To present the basic principles, techniques and rationale of operative procedures and apply them.
- To understand the principles, terminology, instruments, materials and techniques used in the practice of Operative Dentistry
- To understand the use of different restorative materials in the scope of Operative Dentistry.
- To understand the basic principles of cavity design for cavity preparations with simple modifications.
- To practice caries removal and pulp protection prior to restorative procedures.

Specific Objectives:

By the end of this course the student should be able to:

- Diagnose oral disease (caries etiology) and identify patient at high risk.
- Diagnose dental pain and make differential diagnosis of dental pain.
- Perform pulp vitality test using different methods.
- Write a proper treatment plan.
- Administer oral hygiene motivation and patient education.
- Select proper instruments (hand cutting instruments, burs, etc.) for cavity preparation.
- Perform proper management of carious lesions of simple and moderate depths in class I, II, III, IV and V.
- Design a cavity, for different restorative materials, to a biologically and mechanically acceptable level.

- Properly select and use intermediary restorations.
- Correctly use matrices and wedges.
- Restore non-carious lesions e.g. abrasion, erosion and other defects.
- Interpret failures in restorative dentistry and manage them appropriately

Teaching and Learning Methods:

- Classroom lectures
- Textbook reading assignments
- Lab demonstrations and videos
- Lab tutorials

Evaluation:

13. Attendance and performance
14. Practical sessions
15. Seminars of the work
16. Quizzes
17. Written exam
18. Clinical exam
19. OSCE

Reference:-

1. Sturdevant's Art & Science of Operative Dentistry, 5th ed., 2006, Mosby, by Theodore M. Roberson
2. Fundamentals of Operative Dentistry: A Contemporary Approach, 3rd edition 2006, Quintessence Books, by James B. Summit, J. William Robbins, Richard S. Schwartz
3. Atlas of Operative Dentistry: Preclinical and Clinical Procedures. 1985, Quintessence Books, by Dr. Joseph R. Evans

Module title	Preclinical Fixed Prosthodontic
Credit hours	2
Coordinating department	Restorative Dentistry
Description.	
<p>The course is an orientation phase to the discipline of fixed prosthodontics (FP).</p> <p>It provides a structured framework for the students to learn the scientific basis and the fundamental principles of FP.</p> <p>It prepares the student for the practice of sound clinical FP through a pre-clinical phase of mechanical and technical procedures.</p>	
Learning objectives	
<p>By the end of this course the student should be able to:</p> <p>Introduce the student knowledge in the principles applicable to the preparation of complete veneer crowns (CVC's), partial veneer crowns (PVCs) and fixed partial dentures (FPDs).</p> <p>Introduce the student knowledge in the basic concepts of retention and resistance form when preparing extra-coronal restorations.</p> <p>Help the student to list the indications and contraindications for CVCs, PVCs, and FPDs.</p> <p>Enhance student knowledge of biomechanics and how it applies to the design of CVCs, PVCs, and FPDs.</p> <p>Provide the student with the knowledge of physical properties and manipulation of elastomeric materials and be able to select the one appropriate for the specific case.</p> <p>Provide student with the techniques of fabrication of working casts and dies.</p> <p>Provide the student will a practical working knowledge of cast and soldered posterior FPD connector design, and of the technique necessary to solder it.</p> <p>The student will be knowledgeable of gypsum products utilization for the fabrication of working cast and dies.</p> <p>Develop the students knowledge of the properties and selection of dental casting alloys and solders.</p> <p>Help the student determine the finished prosthesis .</p> <p>Help the student to learn the techniques for fabricating provisional restorations.</p> <p>Inform the student with knowledge on dental ceramics and the procedures involved in the fabrication of a metal-ceramic restoration.</p> <p>Provide the student with the rationale and management of restoring endodontically treated teeth.</p>	

SEMESTER 7:**GENERAL MEDICINE:**

Module title	General Medicine
Credit hours	3
Coordinating department	Medicine
Description.	
<p>The importance of teaching general medicine to dental students has been well recognized since the beginning of dental education in Sudan. However, now the general impression is that there is little awareness of this importance among the community and the medical profession.</p> <p>The nature of medical services in Sudan, the attitudes of Sudanese patients and the changing pattern of prevalent diseases, make comprehensive understanding of medical problems a necessity for all practicing dentists.</p>	
Learning objectives	
<p>By the end of this course the student should be able to:</p> <p>Recognition and diagnosis of those medical conditions which have oral manifestations and may present to the dentist for the first time.</p> <p>Recognition and diagnosis of diseases which have an impact on dental procedures.</p> <p>Recognition of sick patients which have significant symptoms and or signs.</p> <p>Diagnosis and management of medical emergencies that may present to the dentist.</p>	
Week number	Session title
1.	History taking and physical examination
2.	Analyze common symptoms.
3.	Take a focused history.
4.	Perform physical examination.
5.	Elicit and recognize important physical signs.
6.	Utilize key points in the history and examination to formulate a differential diagnosis.
7.	Workout a logical plan of investigations to confirm the diagnosis.
8.	Emergencies:
9.	The student should be able to:
10.	Recognize the presence of the acute medical emergency.
11.	Make a rapid initial evaluation of the patient and start immediate management to stabilize the patient.
12.	Evaluate for common complications.
13.	Do regular monitoring of the appropriate parameters.
14.	Consult with the appropriate doctor for further management
15.	Adequate knowledge of the specified medical conditions and training in basic clinical skills are essential for dental practice
	<p>Learning strategies</p> <p>Lecture format utilizing LCD projections.</p> <p>Seminars.</p> <p>Clinical skill development.</p> <p>Clinical rounds.</p>

	Assessment strategies Continuous assessment 20% MCQS 20% Structural Short Answers (SSA) 20% Extended matching questions and problems solving 20% OSCE 20%
	Resources MEDICINE TEXT BOOK

Module title General Surgery7&8	
Credit hours 3	
Coordinating department Surgery	
Description. Some sort of applied general surgery is important for dental students. The justification is that, there are some surgical conditions with dental manifestations. On the other hand there are surgical conditions which need dental approach and undertaking. The delivery of health services in the Sudan also mandates some knowledge and skills of general surgery by the entire medical staff including the dentist	
Learning Objectives -To acquaint the student with various diseases which may require surgical intervention. - 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. -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. -Skills to be developed by the end of teaching are to examine a routine swelling, ulcer and other related diseases and to perform minor surgical procedures such as draining an abscess, taking a biopsy etc	
Week number	Session title
1.	History of surgery:
2.	i. The development of surgery as a specialty over the years.
3.	in the practice of modern surgery.
4.	General principles of surgery:
5.	Introduction to various aspects of surgical principles as related to oro-dental diseases.
6.	Classification of diseases in general. 3
7.	Principles of operative surgery:
8.	Principles as applicable to minor surgical procedures
9.	including detailed description of asepsis, antiseptics, sterilisation, principles of anaesthesia and principles of tissue replacement. Knowledge of sutures, drains, diathermy, cryosurgery
10.	Use of Laser in surgery.
11.	4 WOUNDS: Their classification, wound healing, repair, treatment of wounds, skin grafting,
12.	medicolegal aspects of accidental wounds and complications of wounds.
13.	5 INFLAMMATION: Of soft and hard tissues. Causes of inflammation, varieties, treatment and sequelae.
14.	6 INFECTIONS: Acute and chronic abscess skin infections, cellulitis, carbuncle, and erysipelas.
15.	Specific infections such as tetanus, gangrene, syphilis, gonorrhoea, tuberculosis,
16.	Actinomycosis, Vincents angina, cancrum oris. Pyaemia, toxemia and septicaemia.
17.	7 TRANSMISSABLE VIRAL INFECTIONS: HIV and Hepatitis B with special reference to their prevention and precautions to be taken in treating patients in a carrier state.

18.	8 SHOCK AND HAEMORRHAGE: Classification, causes, clinical features and management of various types of shock. Syncope, Circulatory collapse. Haemorrhage - different types, causes, clinical features and management. Blood groups, blood transfusion, precautions and
19.	complications of blood and their products. Hemophilia's, their transmission, clinical features and management especially in relation to minor dental procedures.
20.	9 TUMOURS, ULCERS, CYSTS, GANGRENE, SINUS, AND FISTULAE: Classification, clinical examination and treatment principles in various types of benign and malignant tumours, ulcers, cysts, gangrene, sinus and fistulae.
21.	10 DISEASES OF LYMPHATIC SYSTEM: Especially those occurring in head and neck region.
22.	Special emphasis on identifying diseases such as tubercular infection, lymphomas,
23.	leukaemias, metastatic lymph node diseases.
24.	11 DISEASES OF THE ORAL CAVITY: Infective and malignant diseases of the oral cavity and oropharynx including salivary glands with special emphasis on preventive aspects of premalignant and malignant diseases of the oral cavity.
25.	12 NECK SWELLINGS – Midline and Lateral swellings, Cystic and Solid swellings – Classification,
26.	Differential diagnosis, Treatment
27.	13 DISEASES OF LARYNX, NASOPHARYNX: Infections and tumours affecting these sites.
28.	Indications, procedure and complications of tracheostomy.
29.	14 NERVOUS SYSTEM: Surgical problems associated with nervous system with special reference
30.	to the principles of peripheral nerve injuries, their regeneration and principles of treatment.
31.	Detailed description of affections of facial nerve And its management. Trigeminal neuralgia, its
32.	presentation and treatment.
33.	15 FRACTURES: General principles of fractures, clinical presentation and treatment with
34.	HEAD INJURY MANAGEMENT 1
35.	17 MANAGEMENT OF SEVERELY INJURED PATIENT – RESUSCITATION
36.	18 DISEASES OF ARTERIES AND VEINS IN GENERAL –Varicose veins, Atherosclerosis, Aneurysm, Carotid Body tumours
37.	19 ANOMALIES OF DEVELOPMENT OF FACE: Surgical anatomy and development of face. Cleft lip and cleft palate—principles of management.
38.	20 DISEASES OF THYROID AND PARATHYROID: Surgical anatomy, pathogenesis, clinical features and management of dysfunction of thyroid and parathyroid glands. Malignant diseases of the thyroid—classification, clinical features and management.
39.	21 SWELLINGS OF THE JAW: Differential diagnosis and management of different types of swellings of the jaw, Osteomyelitis of mandible
40.	22 BIOPSY: Different types of biopsies routinely used in surgical practice. 1
41.	23 BURNS AND SCALDS
	Learning strategies Lecture format utilizing LCD projections. Seminars. Assignments. Clinical Rounds.
	Assessment strategies Attendance and performance Practical sessions

	Seminars of the work Quizzes Written exam Clinical exam OSCE
	Resources General Surgery Text Books

Course Title: Clinical Operative 2

Course No :
Duration : long
Credit hours : 3
Semester : 8

Course Description

This course is aimed towards the reinforcement of the previous knowledge gained in the early courses and help in updating the students' information. It will be directed towards the clinical applications of the principles of different cavity preparations as well as the different types of restorative materials.

General Objectives:

By the end of this course the student should be able to:

- Integrate the principles of occlusion within the clinical case-based setting
- Plan and manage extensive posterior restorations
- Treat patients requiring direct complex anterior and posterior aesthetic restorations
- Manage aesthetically demanding patients
- Access and manage the patient requiring vital bleaching procedure
- Plan treatment of patients requiring indirect restorations

Specific objectives:

By the end of this course the student should be able to:

- Understand the basic principles of occlusion.
- Understand the impact of direct restoration on occlusion.
- Identify the principles of tooth colored posterior restorations.
- Understand the concept of dental adhesion.
- Identify the elements of aesthetics
- Identify the principles of indirect aesthetic posterior restorations

Teaching and learning methods:

- Classroom lectures
- Textbook reading assignments
- Lab demonstrations and videos

Evaluation:

1. Attendance and performance
2. Practical sessions
3. Seminars of the work
4. Quizzes
5. Written exam

6. Clinical exam
7. OSCE

Reference:-

1. Sturdevant's Art & Science of Operative Dentistry, 5th ed., 2006, Mosby, by Theodore M. Roberson
2. Fundamentals of Operative Dentistry: A Contemporary Approach, 3rd edition 2006, Quintessence Books, by James B. Summit, J. William Robbins, Richard S. Schwartz
3. Atlas of Operative Dentistry: Preclinical and Clinical Procedures. 1985, Quintessence Books, by Dr. Joseph R. Evans

Lectures Topics for Operative Dentistry (1&2)

1. Introduction to Clinical Operative Dentistry.
 2. Pain Control in Operative Dentistry.
 3. Infection Control in Operative Dentistry.
 4. Management of the Badly Decayed Teeth
5. Complex Restorations
 6. Adhesive Dentistry
 7. Aesthetic Dentistry
8. Management of the Severely Worn Out Dentition.
 9. Failure of Restorations & Management
 10. Advanced Restorative Dentistry

Course title	Perio 1	Module code	
Credit hours	2	Semester/ year	7th sem , 4th year
Course prerequisites	Anatomy, physiology, biochemistry, dental anatomy, general pathology, microbiology, dental material, general medicine general surgery, pharmacology.	Course corequisites	Radiology , oral pathology , forensic dentistry m D.P.H , prosthesis , conservative dentistry , oral surgery ,crown and bridge , peadodontics , orthodontics , oral medicine.
Description	<p>Students initiate periodontal procedures on patients with gingivitis & early to moderate stages of periodontitis they can be able to Impart the preventive measures namely, the prevention of periodontal diseases and prevention of the progress of the disease , know how to use and maintain the instruments for periodontal therapy and perform dental scaling diagnostic tests of periodontal diseases</p>		
Learning objectives	<p>A student who successfully pass this course should: achieve good knowledge about the causes periodontal disease be able to diagnose periodontal disease can participate in prevention program of periodontal diseases have a very good base in subject enable him to fulfil the requirement follow good steps in clinical practice</p>		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Introduction to periodontics		Clinic	
	0.5 (t/s/p)	Elective		
2.	The gingiva	Def. Parts of gingiva. Clinical features. Microscopic features. Correlation of clinical & microscopic features. Gingival epithelium. Gingival connective tissue. Blood and nerve supply.	clinic	
	The gingiva (t/s)			
3.	Periodontal ligaments	Def. Width. Periodontal fibers. Functions. Regulation of periodontal ligament width.	clinic	
	The gingiva (t/s)			
4.	Cementum & alveolar process	Cementum (def – classification – permeability – cemento-enamel junction – thickness & abnormalities) Alveolar process (def – composition – bone remodeling – fenestration and dehiscence)	clinic	
	Periodontal ligaments (t/s)			
5.	Classification of periodontal diseases	gingival diseases -gingival disease modified by systemic factors -gingival disease modified by medications -gingival diseases modified by malnutrition Classification of periodontitis	clinic	

	Periodontal ligaments (t/s)			
6.	Etiology of periodontal diseases (plaque & calculus)	Defs. Composition. Plaque as biofilm Plaque formation Factors affecting plaque formation.	clinic	
	Etiology of periodontal diseases (plaque & calculus) (t/s)			
7.	Etiology of periodontal diseases (calculus & other predisposing factors)		clinic	
	0.5 (t/s/p)	elective		
8.	epidemiology of periodontal diseases (indexes)	Periodontal indexes grading	clinic	
	epidemiology of periodontal diseases (indexes) (t/s)			
9.	Defense mechanisms of the gingiva	. Saliva GSF Gingival epithelium	clinic	
	0.5 (t/s/p)	Elective		
10.	lec		clinic	
	0.5 (t/s/p)	elective		
11.	lec		clinic	
	0.5 (t/s/p)	elective		

12.	lec		clinic	
	0.5 (t/s/p)			
13.	lec		clinic	
	0.5 (t/s/p)	elective		

	<p>Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc</p>	<p>Lectures, seminars, clinic, tutorials, seminars.</p>
	<p>Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc</p>	<p>Written exam, oral exams, clinical exams, OSCE</p>
	<p>Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc</p>	<p>Lecture notes, Carranza</p>

Course title	Perio 2	Module code	
Credit hours	2	Semester/ year	8th sem, 4th year
Course prerequisites	Anatomy, physiology, biochemistry, dental anatomy, general pathology, microbiology, dental material, general medicine general surgery, pharmacology.	Course corequisites	Radiology , oral pathology , forensic dentistry m D.P.H , prosthesis , conservative dentistry , oral surgery ,crown and bridge , pedodontics , orthodontics , oral medicine.
Description	<p>Periodontal abscess; definition, classification, pathogenesis, differential diagnosis and treatment.</p> <p>Minor surgical involvement and root planning, management of periodontitis associated with systemic diseases, Refractory Periodontitis, halitosis: Etiology and treatment and mention advanced diagnostic aids and their role in brief.</p>		
Learning objectives	<p>A student who successfully pass this course should:</p> <ul style="list-style-type: none"> – achieve good knowledge about the causes periodontal disease –able to diagnose periodontal disease – can participate in prevention program of periodontal diseases –very good base in subject enable him to fulfil the requirement –good steps in clinical practice 		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Inflammation of gingiva and clinical features of gingivitis	Gingival bleeding. Color changes. Changes in consistency. Changes in texture. Changes in position.	clinic	
	Inflammation of gingiva and clinical features of gingivitis (t/s)			
2.	Gingival enlargement	def. classification(according to etiology and pathogenic changes , according to location and distribution, inflammatory G.enlargement ,drug induced)	clinic	
	Inflammation of gingiva and clinical features of gingivitis (t/s)			
3.	Gingival enlargement	Enlargement associated with systemic disease and conditions. Neoplastic false enlargement. Treatment.	clinic	
	Gingival enlargement (t/s)			
4.	Acute necrotizing ulcerative gingivitis	def. Classification. History. Oral signs and symptoms. Clinical course. horing and cohen staging. Histology. Diagnosis. Etiology. Local predisposing factors.	clinic	
	0.5 (t/s/p)	elective		
5.	Primary herpetic gingivostomatitis	Def. Clinical features. Diagnosis. Treatment.	clinic	
	0.5 (t/s/p)	elective		

6.	pericoronitis	def. Clinical features. Complications. Treatment.		
	0.5 (t/s/p)			
7.	Gingival disease in childhood		clinic	
	0.5 (t/s/p)	elective		
8.	Periodontal pocket		Clinic	
	Periodontal pocket (t/s)	elective		
9.	Periodontal pocket		clinic	
	0.5 (t/s/p)	elective		
10.	Chronic periodontitis		clinic	
	0.5 (t/s/p)	elective		
11.	Instruments and principle of instrumentation		clinic	
	Instruments & principles of instrumentation (tutorial / seminar)			
12.	lec		clinic	
	0.5 (t/s/p)			
13.	lec		clinic	
	0.5 (t/s/p)			

	<p>Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc</p>	<p>Lectures, clinical, seminars, tutorials</p>
	<p>Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc</p>	<p>Written exam, clinical exam, oral exams, OSCE</p>
	<p>Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc</p>	<p>Lecture's notes, carranza</p>

Course title	Clinical Removable Partial Prosthodontics (RPD)	Module code	
Credit hours		Semester/ year	8
Course prerequisites	Pre-clinical removable partial prosthodontics	Course corequisites	
Description (overview of the course, rationale of teaching it, main objective)	To familiarize the student with clinical management of edentulous and partially edentulous patients, through teaching basic clinical procedures and their integration with the procedures taught in the pre-clinical course, and to provide students with a sensible knowledge about dental implantology and its place in Prosthodontic management.		
Learning objectives	<p>A student who successfully pass this course should:</p> <p>–</p> <ol style="list-style-type: none"> 1. competent in the basic scientific knowledge pertaining to the treatment of edentulous and partially edentulous patients. 2. Proficient in the clinical management of uncomplicated cases requiring complete and conventional removable partial dentures. 3. Have a good knowledge about the principle of Osseointegration. 4. Know the anatomical structures of significance in implant insertion. 5. Be familiar with the necessary steps for the planning of a single tooth implant replacement as well as the planning necessary for an implant supported overdenture. 6. Able to critically appraise the quality of prosthetic laboratory work 7. To develop interest for research and participation in research activities 8. To treat all patients with equity and respect. 9. To develop attitude for ethical practice & perfect patient care and management. 		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Introduction and terminology(L)	Introduction to rpd, different types according to material used e.g. acrylic dentures, metallic and flexible dentures	CLINIC 0.5 CH	Students will start clinical work on patients. They should examine the patient and fill the history sheet.
	0.5 C H (T/S/P)			
2.	Phases of partial denture prosthodontics(L)	Phase one: education of the patient. Phase two: History, examination, diagnosis and treatment plan. Phase three: support for distal extension. Phase four: Establishment of occlusal relationship. Phase five: denture insertion. Phases six: recall visit.	CLINIC 0.5 CH	
3.	Biomechanics of Removable Partial Prosthodontics(L)	Application of biology and physics laws in RPD	CLINIC 0.5 CH	
4.	Surveyor and Surveying (L)	Review of surveyor and surveying	CLINIC 0.5 CH	
	Surveyor and Surveying (p)	Each student will prepare cast and practice the procedure of surveying.		
5.	RPD] design(L)	Differentiation between two types of rpd: tooth supported and tooth tissue supported rpd	CLINIC 0.5 CH	
	RPD] design(P)			
6.	RPD] design(L)	Step by step how to design an rpd	CLINIC 0.5 CH	

7.	Diagnosis and treatment planning (L)	Evaluation of partially edentulous patient. History and examination. Diagnosis and treatment plan	CLINIC 0.5 CH	
8.	Mouth preparation for [RPD](L)	Surgical preparation Periodontal preparation Conservative preparation Preparation of the abutment tooth.	CLINIC 0.5 CH	
	Mouth preparation for [RPD](T)	Surgical preparation Periodontal preparation Conservative preparation Preparation of the abutment tooth.		
9.	Impression techniques(L)	Mucocompressive imp tech Mucostatic imp tech Selective. Altered cast tech	CLINIC 0.5 CH	
	Impression techniques(T)	Mucocompressive imp tech Mucostatic imp tech Selective. Altered cast tech		
10.	Support for distal extension [RPD] (L)	Factors which affect support for distal extension: Bone quality and quantity Amount of tissue covering the ridge. Adaptation of the denture base. Maximum coverage of foundation. Design factor.	CLINIC 0.5 CH	
11.	Laboratory procedure for framework construction (L)	Review of the steps: Preparation of the master cast. Steps done on the refractory cast. Finishing and polishing of the framework.	CLINIC 0.5 CH	
	Laboratory procedure for framework construction (P)	Demonstration of metal framework construction is done by the lap technician		
12.	Maxillomandibular relationship(L)	Vertical relation. Horizontal jaw relation. Orientation relation	CLINIC 0.5 CH	

13.	Establishment of occlusal relationship (L)	Objectives of recording occlusal relation. Occlusion in natural teeth. Balance occlusion	CLINIC 0.5 CH	
14.	Try-in stage (L)	Extra oral examination. Intraoral examination	CLINIC 0.5 CH	
15.	Denture insertion, instructions and recall visits (L)	Delivering the denture to the patient. Adjustment of the denture. Post insertion instruction	CLINIC 0.5 CH	

	Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practical, clinical work, assignment, ..., etc	Lectures clinical tutorials practical
	Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, ..., etc	written ,oral ,practical exam, and OSPE
	Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc	Stewart's Clinical Removable Prosthodontics. 4th Edition. Quintessence Publishing Co, Inc. McCracken's Removable Prosthodontics, 11th Edition 2004 by McGivney GP, Carr AB.

Course title	Fixed prosthodontics	Module code	
Credit hours	2	Semester/ year	Semester1 4th year
Course prerequisites	Oral pathology Physiology Dental anatomy Dental materials Prosthodontics Conservative dentistry	Course corequisites	Dental anatomy Radiology Dental materials Conservative dentistry
Description (overview of the course, rationale of teaching it, main objective)			
Learning objectives	<p>A student who successfully pass this course should:</p> <ul style="list-style-type: none"> – Show evidence of knowledge of design of retainer and pontics according to the case Biologically and aesthetically treat patient in need of fixed prosthodontics so that all function and mechanical requirement are met Have adequate knowledge to work in harmony with citify dental technology Demonstrate the ability to carry out the laboratory step resulting in the satisfactory completion of several units of crown or fixed partial denture for patient 		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Introduction to fixed prosthodontics (lecture)	Terminology and definition	Introduction to fixed prosthodontics(lecture)	Treatment option
2.	Principle of tooth preparation (lecture)	- Biological consideration Prevention of damage during tooth preparation Adjacent teeth Soft tissues Pulp Causes of injury Considerations affecting future dental health (Axial reduction Finish Line)	Principle of tooth preparation (tutorial)	
3.	Principle of tooth preparation (lecture)	- Mechanical consideration Retention form. Factors affect retention -Resistance form Factors that resistance form depends on:- -Magnitude and direction of the dislodging forces. -Geometry of the tooth preparation. -Physical properties of the luting agent .	Principle of tooth preparation (seminar)	
4.	Principle of tooth preparation (lecture)	Esthetics consideration -full converge porcelain -finish line -position of finish line -full converge crown and bridge	Color science and Shade selection (lecture)	Surface Texture Surface Gloss Opacity and translucency Factors affecting color perception Shade Selection Information for the Lab
5.	Color science and Shade selection (lecture)	-Color depending factor -characteristic of color -clinical step of shade selection -different tool for shade selection	Color science and Shade selection (practical)	-how to select the shade -position of doctor _type of light

6.	Preparation of metal crown (lecture)	Indication & contraindications Advantages & disadvantages Steps	Preparation of metal crown (practical)	-how to make preparation for metal crown -how to make a finishing line and type of burs
7.	Preparation of metal crown (practical)		Preparation of metal crown (practical)	
8.	Preparation of metal ceramic crown (lecture)	Indication & contraindications Advantages & disadvantages Steps -Anterior metal ceramic preparation	Preparation of metal crown (practical)	
9.	Preparation of metal ceramic crown (lecture)	Posterior metal – ceramic preparation	Preparation of metal ceramic crown (practical)	--how to make preparation in artificial teeth for porcelain fused to metal and type of burs used in
10.	Preparation of metal ceramic crown (practical)		Preparation of metal ceramic crown (practical)	
11.	Preparation of all ceramic crown (lecture)	Advantages & Disadvantages Indications & contraindications <i>Armamentarium</i> <i>Steps:</i>	Preparation of metal ceramic crown (practical)	
12.	Preparation of all ceramic crown (practical)		Preparation of all ceramic crown (practical)	-how to make preparation in artificial teeth for all ceramic crowns and type of burs used in
13.	Inlay onlay (lecture)	-definition -indication -contra indication -advantage -disadvantage -class2 inlay preparation -MOD preparation onlay	Inlay onlay (practical)	-How to prepare -the different between them
14.	Partial coverage crown (lecture)	definition -indication -contra indication -advantage -disadvantage -types	Inlay onlay (practical)	

	<p>Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc</p>	<p>Lectue –practicle- seminar- tutorial</p>
	<p>Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc</p>	<p>Written exam-osce</p>
	<p>Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc</p>	<p>Books –hand out</p>

Course title	Fixed prosthodontics	Module code	
Credit hours	2	Semester/ year	Semester2 4th year
Course prerequisites	Oral pathology Physiology Dental anatomy Dental materials Prosthodontics Conservative dentistry	Course corequisites	Dental anatomy Radiology Dental materials Conservative dentistry
Description (overview of the course, rationale of teaching it, main objective)			
Learning objectives	<p>A student who successfully pass this course should:</p> <ul style="list-style-type: none"> — Show evidence of knowledge of design of retainer and pontics according to the case Biologically and aesthetically treat patient in need of fixed prosthodontics so that all function and mechanical requirement are met Have adequate knowledge to work in harmony with citify dental technology Demonstrate the ability to carry out the laboratory step resulting in the satisfactory completion of several units of crown or fixed partial denture for patient 		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Impression in fixed prosthodontics (lecture)	Impression Material properties Mixing & Insertion Setting & Removal Storage & Die / model production Impression Material Choices	Impression in fixed prosthodontics(clinic)	
2.	Impression in fixed prosthodontics(lecture)	Impressions – Clinical steps Disinfecting Impressions	Impression in fixed prosthodontics(clinic)	
3.	Tissue management(lecture)	Why there is a need to tissue management Direct blanching of the tissues with LA Direct use of haemostatic agent Gentle packing with retraction chord Use of retraction cord:- When to use Single or double cord	Impression in fixed prosthodontics(clinic)	
4.	Provisional restoration (lecture)	Indications Types Direct & indirect techniques	Tissue management(clinic)	
5.	Provisional restoration (practical)	-How to make it -different technique of it	Provisional restoration (practical)	
6.	Provisional restoration (clinic)		Provisional restoration (clinic)	
7.	Lab work die and wax pattern(lecture)	Introduction History Steps in casting procedure	Provisional restoration(clinic)	

8.	Lab work wax pattern spruing (lecture)	Sprue formers Crucible formers Casting rings and ring	Lab work(practical)	All done in the lap
9.	Lab work investing casting(lecture)	liners Investing procedure Wax burnout Casting of alloys into mold Casting of titanium alloys Cleaning of casting Casting defects Conclusion	Lab work (practical)	
10.	Lab work(practical)		Lab work(practical)	
11.	Checking and verification(lecture)	To check metal fit before porcelain To check porcelain appearance before final glazing Steps of checking Checking occlusal load / wear patterns Testing appearance Testing phonetics Testing function	Lab work (practical)	
12.	Lutting cement(lecture)	Requirement of ideal lutting cement -types -advantages -disadvantage	Checking and verification(practical)	-How to check
13.	Lutting cement(lecture)	-how to chose the lutting cement	Lutting cement(seminar)	
14.	Lutting cement(practical)	-mixing technique -type of lutting cement	Lutting cement(clinic)	

	<p>Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc</p>	<p>Lecture.tutorials.practicle</p>
	<p>Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc</p>	<p>Written exam.osci</p>
	<p>Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc</p>	<p>Book.hand out</p>

Course title	ORTHODONTIC	Module code	
Credit hours	2 hours	First Semester/ 4th year	
Course prerequisites	Anatomy. Dental anatomy. Radiology. Periodontics. Paedodontics. Oral surgery. Dental materials.	Course corequisites	Paedodontics. Periodontics. Dental materials.
Description (overview of the course, rationale of teaching it, main objective)	The course acquires knowledge of orthodontic problems and their management. To familiarize students to trace cephalometric, roentgenograms and space analysis control.		
Learning objectives	Acquire knowledges of growth and development. Able fabricate and construct the orthodontic practical skills.		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Introduction to orthodontic and malocclusion	. –definition. _Ideal occlusion and malocclusion. _overjet and overbite.	Practical lap	Basic wire bending exercises and material used.
2.	Overview of growth and development(1)	The neonate mouth. The development of primary occlusion. Sequence of eruption of permanent dentition.	Practical lap	Basic wire bending exercises and material used.
3.	Overview of growth and development(2)	Incisor liability. Ugly duckling stage. The leeway space	Practical lap	Basic wire bending exercises and material used
4.	Theories of growth	Genetic theory. Functional matrix theory	Construction of clasps	3/4 clasp (c- clasp).
5.	Mandibular rotation	Internal rotation. External rotation . Backward and forward rotation.	Construction of clasps	3/4 clasp (c- clasp).
6.	Malocclusion	Definition-etiology Classification Types of malocclusion	Construction of clasps	Full clasp (Jackson"s clasp).
7.	ARAB	Active components Retentive components	Construction of clasps	Full clasp (Jackson"s clasp).
8.	Springs	Types	Construction of clasps	Adam"s clasp
9.	Labial bow	Types Parts Function	Construction of clasps	Adam"s clasp
10.	clasps	Types Parts Function.	Construction of clasps	Triangular clasp
11.	Etiology of different types of malocclusion Cross Bite	Etiology of anterior cross bite Etiology of posterior cross bite Management	Construction of clasps	Triangular clasp

12.	Open bite	Etiology of anterior cross bite Etiology of posterior cross bite Management.	Construction of springs	Finger spring
13.	Expansion screw	Types Parts Function Dis\advantages	Construction of spring	Finger spring
14.	Midline diastema	Spacing Etiology Management	construction	Finger spring

	Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc	Lectures, tutorials , practicals
	Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc	Written exam, OSCI.
	Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc	Textbooks, website.

Course No. & code: 0476 Paed01

Course Title: Paediatric Dentsitry 1

Course duration:

15 weeks

2 hour lectures – 3 hours clinical per week (2 + 1 = 3 credit hours)

Course Objectives (specific):

- 1) Sound knowledge of history taking and examination tools including radiographs leading to the establishment of proper diagnosis treatment plan.
- 2) Adequate understanding and application of the techniques of child behavior management and pain control.
- 3) Good knowledge about types and clinical management of dental anomalies.
- 4) Adequate skills in caries preventive and restorative techniques of primary and young permanent dentition.

Contents

Theoretical course contents (and methods of instructions):

- 1) History, examination and treatment planning (1): **lecture**
 - d) History including personal details, presenting complain, social, medical and dental history
 - e) Examination including physical, extra and intra – oral examination.
- 2) History, examination and treatment planning (1): **lecture**
 - a) Investigations including radiographs
 - b) Risk assessment
 - c) Principles of treatment planning.
- 3) Dental Radiology: **Problem based**
 - a) Radiation safety
 - b) Radiographic techniques
 - c) Selection criteria and radiographic examinations
 - d) Interpretation of x-rays.
- 4) Child management (1): **lecture**
 - a) Psychology of child development
 - b) Wright's triangle
 - c) Classification of child behavior in the dental clinic
- 5) Child management (2): **Seminar**
 - a) Non - pharmacological techniques of behavior management.
 - b) First dental visit.
- 6) Child management (3): Pharmacologic management of patient behaviour: **lecture**
 - a) Definition of terms
 - b) Patients evaluation and monitoring

- c) Drugs used for sedation.
- 7) Child management (4): Pharmacologic management of patient behaviour: **lecture**
 - a) Routes of administration
 - b) Use of General Anaesthesia.
- 8) Local Anesthesia and pain control: **Seminar**
 - a) Properties and composition.
 - b) Mechanism of action
 - c) Topical anaesthesia
 - d) Complications.
- 9) Local Anesthesia and pain control : **Seminar**
 - a) Techniques of L.A.
 - b) Calculation of dose for pediatric patient.
 - c) Analgesics
- 10) Clinical Genetics: **lecture**
 - a) Review of genetic principles
 - b) Hereditary traits
 - c) Influence of genetic factors on major craniofacial, oral, and dental conditions
- 11) Developmental Anomalies of teeth (1): **Problem based**
 - a) Types, clinical presentation and management of anomalies of number
 - b) Types, clinical presentation and management of anomalies of size
- 12) Developmental Anomalies of teeth (2): **Problem based**
 - a) Types, clinical presentation and management of anomalies of form
- 13) Developmental Anomalies of teeth (3): **Problem based**
 - a) Types, clinical presentation and management of structural defects of enamel
- 14) Developmental Anomalies of teeth (4): **Problem based**
 - a) Types, clinical presentation and management of structural defects of dentino-pulpal complex

15) Developmental Anomalies of teeth (5): **Problem based**

- a) Types, clinical presentation and management of anomalies of eruption
- b) Types, clinical presentation and management of teeth discoloration.

Clinical training includes:

- History taking, examination and charting.
- Taking different X- ray views and their interpretations
- Different preventive techniques including fluoride application and fissure sealants
- Atraumatic restorations
- Preventive resin restorations.
- Simple restorations in primary teeth (C11 to CL 5)
- Extraction of primary teeth.

Methods of instruction:

- Lectures
- Seminars
- Small group discussion
- Problem based learning
- Clinical instruction

Method of assessment and evaluation

1. Written examination :40 %
2. Objective Structured Clinical Examination (OSCE): 30 %
3. Student's portfolio: 30 %

This result will account for 10 % of the final exam.

Suggested Readings and References

- 1) Richard Welbury, Monty S. Duggal, Marie Therese Hosey Paediatric Dentistry.
- 2) R.J. Andlaw, W. Rock
A Manual of Pediatric Dentistry.
- 3) Angus Cameron, Richard Widmer Handbook of Paediatric Dentistry.
- 4) Casamassimo, Fields, Mctigue and Nowak Pediatric Dentistry: Infancy through Adolescence.
- 5) Jeffry A. Dean

McDonald and Avery's Dentistry for the Child and Adolescent.

Course title	Dental public health	Module code	
Credit hours		Semester/ year	7 th ---- 4 th
Course prerequisites		Course corequisites	
Description (overview of the course, rationale of teaching it, main objective)	<p>The course introduces the dental students to basic knowledge of prevention, education and planning To prevent oral diseases in early stage, and how to make plan</p>		
Learning objectives	<p>A Student who successfully pass this course should:</p> <ul style="list-style-type: none"> -Functions and determinants of dental public health -Epidemiology, etiology of the most common oral diseases -Different types of individual and community preventive oral health programs -Different oral indices -Epidemiology, different types of epidemiological studies and measures of diseases frequency -Prevention -Diet, different types of carbohydrates and effect on oral health -Ethics, dental profession and practice -Criteria, objective and components of study protocol -Professionalism, criteria, principals, behavior <p>11 – Health education</p>		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Introduction to dental public health	Definition, determinates, function	Introduction to research methodology	Definition, uses, criteria, objectives
	1st hour		1 st hour	
2.	Bio safety	Definition, principal, sterilization, disinfection, bio safety recommendation in dentistry	How to write a title	Write an effective title , process and literature review
	1 hour		1 st hour	
3.	Fluoride	Definition, existence, administration of fluoride, advantages and disadvantages	How to write proposal	Definition, content, method
4.	Introduction to epidemiology	Epidemiology, definition, etiology, and prevention	Basics in statistics	Variables, types of data, how to collect present, sampling
5.	Dental fluorosis	Definition, types, etiology, prevention		
6.	Class Test 1st hour	Public health	Class Test 1 st hour	Research methodology
7.	Epidemiology of oral diseases (dental caries, periodontology)	Definition, epidemiology, etiology, prevention		
8.	Oral cancer	Definition, epidemiology, etiology, prevention		

9.	Dental health education	Objective, principals, content, key elements in communication, method in health communication		
10.	Occupational hazards in dentistry	Types of professional hazards in dental clinics		
11.	Steps of behavior change	Six stages of behavior change		
12.	Indices for oral diseases	Definition, uses, criteria Simplified oral hygiene index		
13.	Decayed-missing-filled DMFT index	Definition, method, calculation		
14.	The community periodontal index of treatment need	Definition, uses, WHO probe		

	<p>Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc</p>	<p>--classroom lectures as power point presentation using a computer and projector --groups presentation --Tutorial --field work, visits to selected school</p>
	<p>Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc</p>	<p>Classroom test 10% Mid exam 20% Seminar 10% Final exam 60%</p>
	<p>Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc</p>	<p>Textbook of community dentistry Lectures handouts</p>

Semester8

ORAL & MAXILLOFACIAL SURGERY I, II&III:

Course Code:

Course credits: hrs

Course Length: = 45 weeks

Course Instructors:

Staff of OMFS dept.

Course Overview:

The course will provide the student with the abilities to describe the general principles of oral and maxillofacial surgery, diagnose and manage common surgical oral and dento-alveolar conditions and refer as appropriate.

Prerequisites:

For OMFS :

Basic sciences

General Medicine

General Surgery

Oral pathology

Course Objectives:

i. Knowledge:

At the end of the course and the clinical training the graduate is expected to be:

- (1) Able to apply the knowledge gained in the preclinical subjects and related medical subjects like general surgery and general medicine in the management of patients with oral surgical problem.
- (2) Able to diagnose, manage and treat (understand the principles of treatment of patients with oral surgical problems.
- (3) Have knowledge of range of surgical treatments.
- (4) Able to decide the requirement of a patient to have oral surgical specialist opinion or treatment.
- (5) Understand the principles of in-patient management.
- (6) Understand the principles of emergency management of maxillofacial injuries, BLS measures and the medico legal responsibilities and formalities.
- (7) Understanding of the management of major oral surgical procedures and principles involved in patient management.
- (8) Be able to decide the need for medical/ surgical consultations and the method of doing so.
- (9) Should know ethical issues related to OMFS and have optimum communication ability.
- (10) Should know the common systemic and local diseases, drugs used and drug interactions

ii. Skills:

A graduate should have acquired the skill to:

- (1) Examine any patient with an oral surgical problem in an orderly manner.
- (2) Be able to understand requisition of various clinical and laboratory investigations and is capable of formulating differential diagnosis.
- (3) Should be competent in the extraction of teeth under both local and general anesthesia.
- (4) Ability to assess, prevent and manage various complications during and after surgery.
- (5) Able to provide primary care and manage medical emergencies in the dental office.
- (6) Understanding of the management of major oral surgical problems and principles involved in-patient management.
- (7) Should be competent in measures necessary for homeostasis and wound closures.

Modes of Assessment

The mode of Assessments should employ both formative and summative methods with emphasis on clinical aspects that encourage problem solving skills as far as possible.

a. Continuous Assessment (Formative)

- i) Log of experiences and procedures done
- ii) Case reports and portfolios
- ii) Project reports
- iv) Regular course examinations: written, practicals, clinical and viva voce
- v) Attitudinal assessment

b. University End of Year Examinations (Summative)

- i) Written
- ii) Clinical
- iii) Practical
- iv) Viva voce

No.	Topics	Description	Hours	Inst.M
Topics for III Year				
1.	Introduction	Definition, scope, aims and objectives. Diagnosis in oral surgery: History taking, Clinical examination, Investigations. Principles of infection control and cross-infection	1	LECT
2.	Principles of Oral Surgery	<p>1) sepsis: Definition Measures to prevent introduction of infection during Surgery. Preparation of the patient, Measures to be taken by operator, Sterilization of instruments - various methods of sterilization etc., Principles and need for cleaning of infected/used instruments prior to re sterilization</p> <p>2) Surgery set up. Painless Surgery: Pre- anesthetic considerations Pre-medication: purpose, drugs used Anesthetic considerations a) Local b) Local with IV sedations</p> <p>3) Use of general anesthetic Access: Intra-oral: Mucoperiosteal flaps, principles, commonly used intraoral incisions. Bone Removal: Methods of bone removal. Use of Burs: Advantages & precautions Bone cutting instruments: Principles of using chisel & osteotome. Extra-oral. Skin <i>incisions - principles, various extra- oral incision to expose facial</i> skeleton. a) Submandibular b) Pre auricular Incision for TMJ, Access to maxilla & orbit, Bi coronal incision</p> <p>ontrol of hemorrhage during surgery Normal Hemostasis</p> <p>6) Local measures available to control bleeding Hypotensive anesthesia etc. Drainage & Debridement Purpose of drainage in surgical wounds Types of drains used</p> <p>7) Debridement: purpose, soft tissue & bone debridement. Closure of wounds Type wounds, Classification of wounds Suturing: Principles Suture material: Classification, ideal</p>	4	LECT SGW DEMO

3.	Local Anesthesia	<p>Introduction and Neurophysiology Concept of LA</p> <p>Classification of local anesthetic agents' Ideal requirements</p> <p>Mechanism of action Armamentarium required</p> <p>Types of local anesthesia</p> <p>Use of vaso constrictors in local anesthetic solution -Advantages, contra-indications, Various vaso constrictors used.</p> <p>Anesthesia of the mandible -Pterygomandibular space - boundaries, contents etc. Intra oral and extra oral techniques of Inferior Alveolar Nerve Block, Mandibular Nerve Block, Mental Nerve Block, Infiltrations, etc.</p> <p>Anesthesia of Maxilla – Infiltrations, Infra -orbital nerve block, Posterior superior alveolar nerve block, Infiltrations, Maxillary nerve block – Intra oral and extra oral Techniques</p> <p>Complications of local anesthesia- local and systemic Disposal of sharp instruments</p>	5	LECT DEM O SGW SEM
4.	General Anesthesia	<p>Concept of general anesthesia.</p> <p>Indications of general anesthesia in dentistry. Pre-anesthetic evaluation of the patient.</p> <p>Pre-anesthetic medication - advantages, drugs used.</p> <p>Conscious sedation</p> <p>Commonly used anesthetic <i>agents</i>.</p> <p>Complication during and after G.A.</p> <p>I.V. sedation with Diazepam and Midazolam.</p> <p>Indications, mode of action, technique etc.</p> <p>Cardiopulmonary resuscitation</p> <p>Use of oxygen and emergency drugs.</p> <p>Tracheostomy.</p>	2	LECT DEM O
5.	Exodontia	<p>General considerations Ideal Extraction.</p> <p>Indications/ contra indications for extraction of teeth Extractions in medically compromised patients.</p> <p>Methods of extraction</p> <p>Forceps or intra-alveolar or closed method.</p> <p>Principles, types of movement, force, role of left hand etc.</p> <p>Trans-alveolar, surgical or open method</p> <p>Indications, surgical procedure.</p> <p>Dental elevators, uses, classification, principles in the use of elevators, commonly used elevators.</p> <p>Armamentarium Complications</p> <p>Complications during exodontia Common to both maxilla and mandible.</p> <p>Post-operative complications</p> <p>Prevention and management of complications.</p>	4	LECT DEM O SGW SEM

6.	Medical Emergencies in dental practice	Primary care of medical emergencies in dental practice (a) Cardio vascular (b) Respiratory (c) Endocrine (d) Anaphylactic reaction (e) Epilepsy Basic Life Support	3	LECT DEM O SGW
7.	Emergency drugs & Intra muscular and I.V. Injections	Emergency drugs required in a dental clinic Applied anatomy. Sites for intra muscular and intra venous injections, techniques etc.	1	DEM O SGW
Topics for Final year-Part 1				
8.	Impacted teeth	Incidence, definition, etiology. Impacted mandibular third molar Classification, reasons for removal Assessment - both clinical & radiological. Armamentarium and surgical procedures for removal. Complications during and after removal, its prevention and management. Maxillary third molar, Indications for removal, classification, Armamentarium and surgical procedure for removal, Complications during and	4	LECT SEM TBL

		after removal, its prevention and management. iv. Impacted maxillary canine. Reasons for canine impaction, indications for removal, Methods of management, Localization, labial and palatal approaches, Complications during and after removal, its prevention and management Surgicalexposure, Transplantation		DEM O
. 9	Neurological Diseases	iv. Trigeminal neuralgia - definition, etiology, clinical features and methods of management including medical and surgical. v. Facial paralysis - etiology, clinical features. vi. Nerve injuries - Classification, clinical features and management, Nerve Grafting - Neuropathy etc.	3	LECT
10.	Implants	Concept of Osseo integration, History of implants their design & surface characteristics. Knowledge of various types of implants, Bone biology, Morphology, Classification of bone and its relevance to implant placement. Bone augmentation materials. Soft tissue considerations in implant dentistry. Surgical procedure to place implants.	2	LECT DEM O
11.	Diseases of the maxillary sinus	Surgical anatomy and development of the sinus. Sinusitis both acute and chronic Surgical approach of sinus - Caldwell-Luc procedure, Knowledge of FESS, Removal of root from the sinus. Oro-antral fistula and communications- etiology, clinical features and surgical methods for closure.	2	LECT PBL
12.	Cysts of the mouth and jaws	Definition, classification, pathogenesis. Diagnosis - Clinical features, radiological, FNAC, use of contrast media and histopathology. Management - types of surgical procedures. Rationale of the techniques, indications, contraindications, procedures, complications etc.	4	TBL SEM PBL
13.	Jaw deformities	Basic forms - Prognathism, Retrognathism and open bite. Reasons for correction. Diagnosis and treatment planning Outline of surgical methods carried out on mandible and maxilla- subapical, body, sagittal split osteotomy, genioplasty, anterior maxillary Osteotomy, Le fort I osteotomy Role of distraction osteogenesis in correction of jaw deformities	3	LECT DEM O

14.	Pre-prosthetic Surgery	<p>Definition</p> <p>Classification of procedures</p> <p>Corrective procedures: Alveoloplasty, Reduction of maxillary tuberosity, Frenectomies and removal of tori.</p> <p>Ridge extension or Sulcus extension procedures, Indications and various surgical procedures</p> <p>Ridge augmentation and reconstruction.</p> <p>Indications, use of bone grafts, hydroxyapatite etc.</p>	2	LECT
Topics for Final year - Part II				
15.	Cleft Lip and Palate	<p>Etiology of the clefts, incidence, classification</p> <p>Role of dental surgeon/ maxillofacial surgeon in the cleft team. Outline of the closure procedures,</p>	1	LECT
16.	Infections of the Oral cavity	<p>Introduction, surgical anatomy of the superficial and deep fasciae of head and neck</p> <p>Factors responsible for infection, pathogenicity, virulence Dento-alveolar abscess - etiology, clinical features and management.</p> <p>Spread of odontogenic infections through various facial spaces and its management</p> <p>Ludwig's angina - definition, aetiology, clinical features, management and complications</p> <p>Course of odontogenic infections</p>	6	LECT SEM DEMO
17.	Fungal Infections of head and neck region	<p>Candidiasis, Actinomycosis, Coccidioidmycosis, Rhinosporidosis, Antifungal agents</p>	1	LEC
18.	Osteomyelitis of the jaws	<p>Definition, etiology, pre-disposing factors, classification, clinical features and management.</p>	1	LEC

19.	Carcinoma of the oral cavity	Lymphatic Spread. TNM classification, Staging. Biopsy-types, filling of Histopathology request form Outline of management of Squamous Cell Carcinoma: surgery, radiation and chemotherapy Role of dental surgeons in the prevention and early detection of oral cancer.	2	LECT TBL
20.	Osteoradionecrosis -	Definition, etiology, theories, pre-disposing factors, classification, clinical features and management.	1	LECT
21.	Maxillofacial Traumatology	Emergency management in maxillofacial trauma General considerations, types of fractures, aetiology, clinical features and general principles of management. Mandibular fractures - Applied anatomy, classification. Diagnosis - Clinical and radiological features, Management - Reduction - closed and open Fixation and immobilization methods outline of rigid and semi-rigid internal fixation Fractures of the condyle - etiology, classification, clinical features, principles of management Fractures of the middle third of the face. Definition of the mid face, applied surgical anatomy, classification, clinical features and outline of management. Alveolar fractures - methods of management Fractures of the Zygomatic complex and orbit. Classification, clinical features, indications for treatment, various methods of reduction and fixation Faciomaxillary Injuries in Children Complications of fractures - delayed union, non-union and malunion.	7	LECT SEM DEMO
22.	Salivary gland diseases	Surgical Anatomy of Minor and Major salivary glands Sialography, contrast media, procedure. Inflammatory conditions of the salivary glands Sialolithiasis- Sub mandibular duct and gland, parotid duct and gland, Clinical features, management, Intraoral and extra oral Sialolithotomy. Salivary fistulae, sialocoele Autoimmune diseases of the salivary glands, diagnosis management Common tumors' of salivary glands like Pleomorphic adenoma including minor salivary glands.	3	LECT TBL

23.	Tumors of the Oral cavity	<p>General considerations, surgical principles</p> <p>Non odontogenic benign tumours occurring in oral cavity - fibroma, papilloma, lipoma, ossifying fibroma, myxoma etc. Odontogenic tumors: both benign and malignant.</p> <p>Ameloblastoma - Clinical features, radiological appearance and methods of management.</p> <p>Osteogenic tumours of the faciomaxillary region.</p>	4	LECT TBL PBL
24.	Disorders of T.M. Joint	<p>Applied surgical anatomy of the joint.</p> <p>Development of the TMJ</p> <p>Surgical approaches to TM.J Radiological investigations</p> <p>Hypermobility of TMJ; Dislocation - Types, aetiology, clinical features and management.</p> <p>Hypo mobility of TMJ; Classification, Ankylosis - Definition, aetiology, clinical features and management</p> <p>Myo-facial pain dysfunction syndrome, etiology, clinical features, management-</p> <p>Non-surgical and surgical. Internal derangement of the joint.</p> <p>Inflammatory Diseases of T.M. Joint.</p> <p>Arthroscopy</p>	4	LECT SEM

CLINICAL AND ACADEMIC REQUIREMENTS:

- i. Case Taking: Detailed clinical examinations, investigations and diagnosis – 10 nos.
 - ii. Dental extractions under local anesthesia – 300nos.
 - iii. Suturing of extraction wound -5nos
 - iv. Incision and drainage – 3nos.
 - v. Arch bar wiring, eyelet wiring and intermaxillary fixation on plaster or acrylic models- 1each
 - vi. IV/ IM injection technique on patients- 5 noeach
 - vii. Wound dressing – 5nos.
 - viii. Observing minor surgery done by staff member- 5nos
 - ix. Surgical Assistance of minor surgeries- 5nos.
 - x. Observation of major surgeries in Operation Theatre- 3nos.
 - xi. Observation of surgical procedures performed in casualty– 5nos.
 - xii. Training in handling medical emergencies. CPR and basic lifesupport
 - xiii. Seminars: 6 nos. Two in the third year, Two in the fourth year and Two in the final year
- A work record should be maintained by all students detailing each of the clinical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department.
- g) CLINICAL REQUIREMENTS YEARWISE:

Sl. No.	Topic	Procedures in IV Year	Quota: Must do
1	Case Taking	Detailed clinical examinations, investigations and diagnosis	2 cases
2	Dental Extraction	Extraction of anterior and mobile teeth under LA : Infiltration only	60 cases
3	Seminars	Seminars on basic subjects, local anesthesia, investigative procedures, exodontiaetc.	2 no.
	Injection	IV/ IM injection technique on patients-	5nos.each
4	Observation	Observing minor surgery under LA done by staff member	2 cases
Procedures in Final year (Part I)			
1	Case Taking	Detailed clinical examinations, investigations and diagnosis	3 cases
2	Dental Extraction	Extraction of anterior and posterior teeth under LA : Infiltration and blocks	100 cases
3	Suturing	Suturing of extraction wound	5 no.
4	Seminars	Seminars on oral surgery subjects, cross contamination and infection, impactions, medically compromised patients, medical emergencies etc.	2 no.
5	Observation	Observing minor surgery under LA done by staff member	3 cases
6	Assistance	Assistance of minor surgery under LA done by staff member	2 cases
7	Observation	Observation of cases managed in the casualty	2 cases
8	Skill development	Wiring procedures in models	3 nos.
Procedures in Final year (Part II)			
1	Case Taking	Detailed clinical examinations, investigations and diagnosis	5 cases
2	Dental Extraction	Extraction of anterior and posterior teeth under LA : Infiltration and blocks	140 cases
3	Seminars	Seminars on oral surgery subjects like TMJ, Tumors, Maxillofacial injuries, Infections, Salivary Gland	2 no.

		diseases and Medico-legal considerations	
4	Observation	Observation of major surgery under GA do in the OT	3 cases
5	Assistance	Assistance of minor surgery under LA done by staff member	3cases
6	Procedure	Incision and drainage	3
7	Procedure	Wound dressing	5
8	Observation	Observation of cases managed in the casualty	3 cases

i) SCHEME OF EXAMINATION

Distribution of Topics and Types of Questions for University Written Examination:

Contents	Types of Questions and Distribution of Marks	Total Marks
One Question From Local Anaesthesia One Question From Oral Surgery	Structured Essays 2x 14marks	28
Eight Question From Oral Surgery, One Question From Local Anaesthesia, , One Question From General Anaesthesia	Brief structured Essays 4 x 8marks	32
Questions from any of the Oral & Maxillofacial Surgery topics.	Short Answers 10x4marks	40
	Total	100

vii. Theory

University Written

100Marks

Internal Assessment

25Marks

Viva Voce:

25Marks

viii. Clinical:

University Clinical Examination:

80MarksonofExtractionof

mobile(Maxillary/Mandibular)

Case History

20 Marks

Local Anaesthesia technique

25 Marks Extract Extraction of

firm tooth & patient management

25 Marks Clinical Work Record

Seminar

10Marks

Internal Assessment:

20Marks

Grand Total

250Marks

a) OBJECTIVES:

By the end of the course:

The student should have through knowledge on the importance of various diseases as applicable to dentistry.

i. Special precautions/ contraindication for oral and dental procedures in different systemic diseases.

ii. Oral manifestations of systemic diseases.

iii. Medical emergencies in dental practice.

IV. The student should be 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.

Course length: 3 credit hours.

b) THEORY: 60 HOURS

CORE TOPICS	Hours
1. Aims of medicine, definitions of diagnosis, treatment & prognosis. History taking ,Physical examination of the patient, diagnosis and management of disease. Genetics and disease, Medical Ethics.	2
2.Infections: Enteric fever, HIV, Herpes simplex, Herpes zoster, Syphilis ,Diphtheria, Malaria, Actinomycosis, Viral hepatitis, Tuberculosis. Infectious mononucleosis Mumps, Measles, Rubella, Leprosy, Organisation and functions of the immune systems.	5
3. G.I.T: Stomatitis, Gingival hyperplasia, Dysphagia, Acid peptic disease, Jaundice, Acute and chronic hepatitis, Cirrhosis of liver, Ascitis, Amoebiasis, Tender hepatomegaly , Hepatotoxic drugs, Portal hyper tension. Diarrhoea and Dysentery including Malabsorbtion syndromes ,Helicobacter pylori.	5
4. CVS :Acute rheumatic fever Valvular heart disease, Hypertension, Ischemic heart disease (myocardial infarction), Infective endocarditis, Common arrhythmias, Classification of congenital heart disease, Congestive cardiac failure. Heart failure, Fallot's tetralogy, ASD, VSD.	7
5.Respiratory System: Applied Anatomy and physiology of RS, Pneumonia, COPD ,Pulmonary tuberculosis, Bronchial asthma, Pleural effusion, Acute respiratory tract infections, Pulmonary embolism , Suppurative lung diseases, Lung abscess. Pneumothorax , Bronchiectasis Lung Cancer, Empyema, Sleep apnea, ARDS, Respiratory failure.	6
6.Hematology Hematopoiesis, Anaemias, Bleeding & Clotting disorders, Acute and chronic myeloid leukemias, Agranulocytosis and Neutropenia, Thrombocytopenia , Splenomegaly Lymphomas, Oral manifestations of haematological disorders, Generalized Lymphadenopathy. Principles of blood and blood products transfusion, Thromboembolic disease, Oncogenesis, Haemolytic anemia, DIC (Disseminated Intravascular Coagulation).	7
7.Renal System :Acute nephritis and Nephrotic syndrome, U.T.I Renal function tests ,CRF	5
8. Nutrition: Balanced diet, PEM, Vitamin deficiency disease, Calcium and phosphate metabolism, Flurosis. Osteomalacia, Osteoporosis.	4
9. CNS: Facial palsy, Facial pain Trigeminal neuralgia, Epilepsy, Headache including migraine. Meningitis (Acute and Chronic) Anticonvulsants, Examination of comatose patient, Examination of cranial nerves.	7
10.Endocrine : Diabetes mellitus Acromegaly, Hypothyroidism, Thyrotoxicosis, Calcium metabolism and parathyroids. Addison's disease, Cushing's syndrome, Parathyroid disease and calcium metabolism, Preoperative assessment of diabetic patients, Acute adrenal deficiency.	6
11. Critical care :Syncope, Cardiac arrest, Cardio Pulmonary Resuscitation (CPR), Cardiogenic shock, Anaphylaxis ,Allergy, Angio -neurotic edema. Acute LVF, ARDS, Coma.	4
Miscellaneous : Adverse drug reactions, Drug interactions. Rheumatoid disease, Osteoarthritis, Scleroderma.	

c) **CLINICAL TRAINING: 90 HOURS** (posting in a general hospital)

The student must be able to take history, do general physical examination (including build, nourishment, pulse, BP, temperature, edema, respiration, clubbing, cyanosis, jaundice, lymphadenopathy, oral cavity) and be able to examine CVS, RS , abdomen and facial nerve and signs of meningeal irritatio

d) **SCHEME OF EXAMINATION**

Distribution of Topics and Types of Questions for University Written Examination:

Types of Questions and Distribution of Marks	Total Marks
Structured Essays 2x 14marks	28
Brief structured Essays 4 x 8marks	32
Short Answers 10x4marks	40
Total	100

i. **Theory**

University Written 100 Marks
 Internal Assessment 25 Marks
 Viva Voce: 25 Marks

ii. **Clinicals:**

University Clinical Examination: 80 Marks
 Case History 15 Marks
 Clinical Examination 30 Marks
 Investigation 10Marks
 Diagnosis & D.D 15 Marks
 Management 10 Marks
 Internal Assessment: 20 Marks

Grand Total

 250Marks

GENERAL SURGERY

a) *OBJECTIVES:*

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. 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.

Skills to be developed by the end of teaching are to examine a routine swelling, ulcer and other related diseases and to perform minor surgical procedures such as draining an abscess, taking a biopsy etc.

Course length: 3 credit hours.

	Topic	Hours
	HISTORY OF SURGERY: The development of surgery as a specialty over the years, will give the students an opportunity to know the contributions made by various scientists, teachers and investigators. It will	1
2	GENERAL PRINCIPLES OF SURGERY: Introduction to various aspects of surgical principles as related to orodental diseases. Classification of	2
3	PRINCIPLES OF OPERATIVE SURGERY: Principles as applicable to minor surgical procedures including detailed description of asepsis, antiseptics, sterilisation, principles of anaesthesia and principles of tissue replacement. Knowledge of sutures, drains, diathermy, cryosurgery and use of Laser in surgery.	1
4	WOUNDS: Their classification, wound healing, repair, treatment of wounds, skin grafting, medicolegal aspects of accidental wounds and complications of wounds.	3
5	INFLAMMATION: Of soft and hard tissues. Causes of inflammation, varieties, treatment and sequelae.	1
6	INFECTIONS: Acute and chronic abscess skin infections, cellulitis, carbuncle, and erysepelas. Specific infections such as tetanus, gangrene, syphilis, gonorrhoea, tuberculosis, Actinomycosis, Vincents angina, cancrum oris. Pyaemia, toxæmia and septicaemia.	5
7	TRANSMISSABLE VIRAL INFECTIONS: HIV and Hepatitis B with special reference to their prevention and precautions to be taken in treating patients in a carrier state.	2
8	SHOCK AND HAEMORRHAGE: Classification, causes, clinical features and management of various types of shock. Syncope, Circulatory collapse. Haemorrhage -different types, causes, clinical features and management. Blood groups, blood transfusion, precautions and complications of blood and their products. Hemophilia's, their transmission, clinical features and management especially in relation to minor dental procedures.	5
9	TUMOURS, ULCERS, CYSTS, GANGRENE, SINUS, AND FISTULAE: Classification, clinical examination and treatment principles in various types of benign and malignant tumours, ulcers, cysts, gangrene, sinus and fistulae.	9
10	DISEASES OF LYMPHATIC SYSTEM: Especially those occurring in head and neck region. Special emphasis on identifying diseases such as tubercular infection, lymphomas, leukaemias, metastatic lymph node diseases.	1

11	DISEASES OF THE ORAL CAVITY: Infective and malignant diseases of the oral cavity and oropharynx including salivary glands with special emphasis on preventive aspects of premalignant and malignant diseases of the oral cavity.	2
12	NECK SWELLINGS – Midline and Lateral swellings, Cystic and Solid swellings –Classification, Differential diagnosis, Treatment	1
13	DISEASES OF LARYNX, NASOPHARYNX: Infections and tumours affecting these sites. Indications, procedure and complications of tracheostomy.	2
14	NERVOUS SYSTEM: Surgical problems associated with nervous system with special reference to the principles of peripheral nerve injuries, their regeneration and principles of treatment.	1

b) THEORY: 60 HOURS

Desirable to know: Introduction to oncology, radiotherapy, surgery and genetic engineering
 E.N.T: Ear: Middle ear infection; Nose: Para nasal sinuses; Throat: Tonsillitis & Peritonsillar Abscess

c) *CLINICALS: 90 HOURS (posting in a general hospital)*

d) *SCHEME OF EXAMINATION*

Distribution of Topics and Types of Questions for University Written examination:

i. *Theory*

	Detailed description of affections of facial nerve and its management. Trigeminal neuralgia, its presentation and treatment.		
15	FRACTURES: General principles of fractures, clinical presentation and treatment with additional reference to newer methods of fracture treatment. Special emphasis on fracture healing and rehabilitation.	1	
16	HEAD INJURY MANAGEMENT	1	
17	MANAGEMENT OF SEVERELY INJURED PATIENT – RESUSCITATION	1	
18	DISEASES OF ARTERIES AND VEINS IN GENERAL –Varicose veins, Atherosclerosis, Aneurysm, Carotid Body tumours	1	
19	ANOMALIES OF DEVELOPMENT OF FACE: Surgical anatomy and development of face. Cleft lip and cleft palate—principles of management.	1	
20	DISEASES OF THYROID AND PARATHYROID: Surgical anatomy, pathogenesis, clinical features and management of dysfunction of thyroid and parathyroid glands. Malignant diseases of the thyroid—classification, clinical features and management.	2	
21	SWELLINGS OF THE JAW: Differential diagnosis and management of different types of swellings of the jaw, Osteomyelitis of mandible	2	
22	BIOPSY: Different types of biopsies routinely used in surgical practice.	1	
23	BURNS AND SCALDS	1	

University Written 100 Marks
 Internal Assessment 25 Marks
 Viva Voce: 25 Marks

ii. *Clinicals:*

University Clinical Examination: 80Marks
 Long Case
 Case History 15 Marks
 Clinical Examination 30 Marks
 Suggested Investigations 10Marks
 Diagnosis & D.D 15 Marks
 Management 10 Marks
 Internal Assessment: 20 Marks

Grand Total 250Marks

Types of Questions and Distribution of Marks	Total Marks
Structured Essays 2x 14marks	28
Brief structured Essays 4 x 8marks	32
Short Answers 10x 4marks	40
Total	100

ENDODONTICS 1:
Course Design Template for Clinical Endodontics Course

Course credits: 2hrs (1+1) for Each Semester

Course Length: 2 Semesters

Course Instructor: Dr.

Course Meeting Time and Location: Lecture Rooms, Seminar Rooms and Dental Clinics, at the Faculty of Dentistry; ElRazi University.

Course Overview: Endodontics is that branch of Dentistry concerned with the morphology, physiology, pathology, management and prevention of the dental pulp and the peri-radicular tissues. This is a comprehensive theoretically and clinically oriented course designed to expose the dental student to the variety of philosophies, materials and techniques in endodontics. In addition to didactic courses, this course will provide a combination of visual and technical experiences that will enhance effective learning. This course introduces the dental student to critical thinking skills by utilizing information learned in basic sciences, classic literatures, and pre-clinical settings to treat patients in a clinical endodontic setting. The student is expected to develop the necessary skills for gathering diagnostic information, developing a sequential treatment plan, and performing endodontic procedures using sound clinical judgment and contemporary endodontic techniques and materials.

Prerequisites: All undergraduates should be adequately grounded in basic and applied science for the safe practice of clinical dentistry (including endodontics). For the safe practice of clinical endodontics, undergraduates should have knowledge of:

1. Have knowledge of the development, structure, function, and ageing of oral and dental tissues:

- 1.1 Bony maxilla and mandible
- 1.2 Teeth (Deciduous and Permanent)
- 1.3 Dental hard tissues, including enamel, dentine and cementum
- 1.4 Dental pulp/dentine complex
- 1.5 Periodontal tissues, including alveolar bone, periodontal ligament, alveolar mucosa and gingivae.

Be familiar with:

- 1.6 The potential of stem cell therapies for tissue repair and regeneration

2. Have knowledge of the anatomy of the head and neck region:

- 2.1 Gross anatomy of the head and neck
- 2.2 Innervation, vascular supply and lymphatic drainage of the teeth, jaws and adjacent structures.
- 2.3 Communications between the pulp and periodontium.

3. Have knowledge of dental anatomy:

- 3.1 Crown, root and pulp morphology of primary and permanent teeth
- 3.2 Morphological changes in response to ageing and disease

4. Have knowledge of the pathology of oral and dental diseases of endodontic relevance, including:

- 4.1 Dental caries
- 4.2 Non-carious tooth surface loss

- 4.3 Marginal periodontal disease
- 4.4 Cracked and crazed teeth
- 4.5 Pulp reactions to caries, trauma, and operative procedures and dental materials
- 4.6 Mechanisms of dental pain
- 4.7 Classification of pulp and periapical conditions
- 4.8 Pulp–periodontal inter-relationships
- 4.9 Dental root resorption.
- 4.10 Odontogenic and non-odontogenic lesions of the jaws.
- 4.11 Wound healing in dental and oral tissues.

5. Have knowledge of microbiology and immunology of:

- 5.1 Oral colonization and biofilm formation
- 5.2 Dental caries and periodontal disease
- 5.3 Ecological niches in the oral environment, including the dental root canal
- 5.4 Cross-infection control, disinfection and sterilization

Be familiar with:

- 5.5 Microbiological sampling and identification

6. Have knowledge of general medicine and surgery as applied to the management of dental (including endodontic) patients:

- 6.1 Medical emergencies.
- 6.2 Oral signs of systemic disease.
- 6.3 Special considerations for young, elderly and medically compromised patients.
- 6.4 Systemic effects of oral and specifically endodontic infections.

7. Have knowledge of pharmacology and therapeutics as applied to the management of dental (including endodontic) patients:

- 7.1 Oral and systemic effects of drugs
- 7.2 Drug interactions.
- 7.3 Pharmacological pain management.
- 7.4 Management of microbial infections.
- 7.5 Mechanisms and significance of antimicrobial resistance.
- 7.6 Haemostasis.
- 7.7 Therapeutic agents in the management of pulp and periradicular disease.

Be familiar with:

- 7.8 Pharmacological anxiety management

8. Have knowledge of biomaterials science in relation to endodontics:

- 8.1 Principles of biocompatibility
- 8.2 Materials for use in vital pulp therapies.
- 8.3 Materials for the production of endodontic instruments.
- 8.4 Materials for the disinfection and debridement of root canals.
- 8.5 Materials for root canal filling and repair.
- 8.6 Materials for the temporization and restoration of root canal-treated teeth.
- 8.7 Bonding to dental tissues.
- 8.8 Principles of ultrasound generation and application.

Be familiar with:

- 8.9 Materials used for tissue regeneration
- 8.10 Principles of fluid mechanics and dynamics

9. Have knowledge of diagnostic imaging:

- 9.1 Principles of X-ray generation for conventional and digital systems
- 9.2 Principles of 2D and 3D imaging modalities, including cone-beam computerized tomography (CBCT).

9.3 Biological effects of ionizing radiation, principles of radiation hygiene and as low as reasonably achievable (ALARA) guidelines.

9.4 Optimizing image quality, including the use of paralleling devices for intra-oral views.

9.5 Processing and storing diagnostic images.

10. Have knowledge of epidemiology, public health measures and biostatistics:

10.1 Community prevalence of dental caries, non-cariou tooth surface loss, dental trauma and periradicular disease of endodontic origin.

10.2 Prevention and management of dental caries, non-cariou tooth surface loss and dental trauma.

10.3 Principles of epidemiology and biostatistics in public health.

Course Objectives: The undergraduate curriculum of clinical endodontics must prepare the students to be able to:

1. Prevent and diagnose diseases of the pulp and peri-radicular area.
2. Identify and determine etiological factors responsible for pulpal and peri-radicular diseases.
3. Identify based on diagnosis and etiology, those factors which may affect the complexity of the anticipated treatment.
4. Select or differentiate cases for treatment or referral based on knowledge, experience and complexity.
5. Provide proper treatment regimen on cases selected consistent with knowledge, experience and ability.
6. Identify the need for appropriate adjunctive procedures subsequent to endodontic treatment.
7. Determine a reasonable prognosis for those cases selected for treatment.
8. Critically evaluate and completed endodontic procedures.

3. Have Completed a Course on Pre-Clinical Endodontics

COURSE MATERIALS:

1. Root canal irrigants as aids to instrumentation.
2. Intracanal medicaments.
3. Procedural errors during cleaning and shaping of root canal spaces.
4. Management of the procedural errors.
5. Advanced Methods of cleaning and shaping pulp cavities
6. Obturation materials and techniques.
7. Advanced Obturation Techniques
8. Rationale of endodontic treatment case selection indication and contraindications for root canal treatments.
9. Diseases of the pulp: reversible pulpitis, irreversible pulpitis, hyperplastic pulpitis, necrotic pulp and hard tissue responses.
10. Periapical diseases: acute periapical abscess, acute periodontal abscess phoeix abscess, chronic alveolar abscess, granuloma, cysts, condensing osteits.
11. Endodontic –Periodontal relationships.
12. Microbiological aspects in endodontics and culture methods.
13. Root Resorption (external and internal resorption).
14. Advanced clinical diagnostic methods.
15. Restoration of endodontically treated teeth.
16. Endodontic surgeries indications & contraindications, pre operative preparation, pre medication surgical instruments and techniques, apicectomy, retrograde filling, post operative sequelea trephination, hemisection, radiscetomy techniques of tooth reimplantation.
17. Management of Traumatized and luxated teeth.

18. Endodontic emergency.
19. Evaluation of success and failure in Endodontics
20. Lasers in conservative endodontics practice.

COURSE SCHEDULE:

Week	Topic and Learning Objectives	Instructional Methods
1	<p>Topic Name : Root canal irrigants & aids to instrumentation</p> <p>Objectives: Prepare the students to do the followings: -Enumerate the different root canal irrigants. -List their constituents and properties. -To administrate root canal irrigants competently.</p> <p>Readings: Recommended books Harty’s endodontics in clinical practice + Journal of endodontics</p>	<p>Lectures; Practical & Clinical demonstration and Clinical application</p>
2	<p>Intracanal medicaments.</p> <p>Objectives: Prepare the students to do the followings: -Enumerate the different root canal medicaments. -List their constituents and properties. -Administer them competently.</p> <p>Readings: Recommended books Harty’s endodontics in clinical practice + Journal of endodontics</p>	<p>Lectures; Practical & Clinical demonstration and Clinical application</p>
3	<p>Procedural errors during cleaning and shaping of root canal spaces.</p> <p>Objectives: Instruct and teach the students to be able to: - identify and prevent the occurrence of common procedural errors during the instrumentation of root canals, including ledges, fractured instruments and root perforations.</p>	<p>Lectures; Practical & Clinical demonstration and Clinical application</p>
4	<p>Management of the procedural errors.</p> <p>Objectives: Instruct and teach the students to be able to: - overcome and manage the common procedural errors during the instrumentation of root canals, including ledges, fractured instruments and root perforations</p>	<p>Lectures; Practical & Clinical demonstration and Clinical application</p>

Week	Topic and Learning Objectives	Instructional Methods
5	<p>Advanced Methods of cleaning and shaping pulp cavities Objectives: The student should be able to:</p> <ul style="list-style-type: none"> - perform a good quality root canal shaping utilizing the modern techniques, materials and devices. -List the benefits and use of magnification and enhanced illumination in endodontic practice. 	<p>Lectures; Practical & Clinical demonstration and Clinical application</p>
6	<p>Obturation materials and techniques Objectives: Be competent at filling the root canals of uncomplicated anterior and posterior teeth, densely and with length control.</p>	<p>Lectures; Practical & Clinical demonstration and Clinical application</p>
7	<p>Advanced Obturation Techniques Objectives: The student should be able to:</p> <ul style="list-style-type: none"> - perform a good quality root canal sealing utilizing the modern techniques, materials and devices. 	<p>Lectures; Practical & Clinical demonstration and Clinical application</p>
8	<p>Rationale of endodontic treatment case selection indication and contraindications for root canal treatments Objectives: The student should be competent at prioritizing endodontic interventions.</p> <ul style="list-style-type: none"> -Be competent at communicating the principles and practice of preventing pulpal and periradicular disease. - Be competent at communicating with patients to describe management options, and their potential benefits, risks and likely outcomes. - Be competent at securing informed consent for treatment. - Be competent at identifying personal limitations of experience and expertise in the management of endodontic care. - Enumerate and detect conditions and complexities that may warrant referral to a medical or dental specialist 	<p>Lectures & Clinical Discussion</p>
9	<p>Diseases of the pulp: reversible pulpitis, irreversible pulpitis, hyperplastic pulpitis, necrotic pulp and hard tissue responses. Objectives: The student should be competent at recognizing the symptoms and signs of common pulpal diseases.</p> <ul style="list-style-type: none"> - Have knowledge of conditions that may mimic pulp and of endodontic origin. -Be competent at managing these conditions 	<p>Lectures & Clinical Discussion</p>
10	<p>Periapical diseases: acute periapical abscess, acute periodontal abscess phoenix abscess, chronic alveolar abscess, granuloma, cysts, condensing osteitis. Objectives: The student should be:</p> <ul style="list-style-type: none"> -competent at recognizing the symptoms and signs of common periradicular conditions. - 	<p>Lectures & Clinical Discussion</p>

Week	Topic and Learning Objectives	Instructional Methods
11	<p>Endodontic –Periodontal relationships. Objectives: -List the pathways of communication between the dental pulp and surrounding periodontium -Be competent at prescribing and conducting a range of diagnostic tests of endodontic relevance, including periodontal probing; assessment of tooth mobility; soft-tissue palpation for tenderness and fluctuance; tenderness to tooth percussion; investigation for cracks by differential cusp wedging, transillumination and staining; occlusal examination; pulp sensibility testing; sinus tract exploration; selective anaesthesia; intra-oral radiography, including the use of paralleling devices and extra-oral radiography -Enumerate and recognize conditions that may mimic periradicular disease of endodontic origin. -Be competent at managing these conditions.</p>	<p>Lectures & Clinical Discussion</p>
12	<p>Microbiological aspects in endodontics and culture methods. Objectives: At the end of this topic, the student should be able to: -Explain oral colonization and biofilm formation. -List the different types of microorganisms found in primary and secondary endodontic infections. -Describe the different virulence factors and associate them to the different clinical presentations where possible.</p>	<p>Lectures & Seminars</p>
13	<p>Root Resorption (external and internal resorption). Objectives: At the end of this topic, the student should be able to: -Define external and internal root resorption with their different types. Perform the required tests needed for their identification. Describe the aetiological factors for each type. Describe the ways of management for each type.</p>	<p>Lectures & Seminars</p>
14	<p>Advanced clinical diagnostic methods. Objectives: Prepare a student to: -Prescribe and conduct a range of diagnostic tests of relevance to the diagnosis of post-treatment endodontic disease, including pulp sensibility testing; periodontal probing; assessment of tooth mobility; soft-tissue palpation for tenderness and fluctuance; tenderness to tooth percussion; investigation for cracks by differential cusp wedging, transillumination and staining; occlusal examination; sinus tract exploration; selective anaesthesia; intra-oral radiography, including the use of paralleling devices and extra-oral radiography.</p>	<p>Lectures & Seminars & Clinical Application</p>

Week	Topic and Learning Objectives	Instructional Methods
15	<p>Restoration of endodontically treated teeth. Objectives: Prepare a student to: -Be competent at restoring root canal-treated teeth to function and aesthetics using intracoronal and extracoronal restorations, including provisional restorations, post-placement, permanent plastic restorations, core build-ups and extracoronal restorations (onlays, crowns). -Perform bleaching procedures to restore the aesthetics of discoloured root canal-treated teeth. - Describe adjunctive treatments for the restoration of root canal-treated teeth, including surgical crown lengthening and orthodontic forced eruption.</p>	Lectures & Seminars & Clinical Application
16	<p>Endodontic surgeries indications & contraindications, pre operative preparation, pre medication surgical instruments and techniques, apicectomy, retrograde filling, post operative sequelae trephination, hemisection, techniques of tooth reimplantation. Objectives: Prepare a student to be competent at: -Be competent at conducting a detailed examination of extra-oral and intra-oral tissues and structures. -Be competent at prescribing and conducting a range of diagnostic tests of relevance to the diagnosis of post-treatment endodontic disease, including pulp sensibility testing; periodontal probing; assessment of tooth mobility; soft-tissue palpation for tenderness and fluctuance; tenderness to tooth percussion; investigation for cracks by differential cusp wedging, transillumination and staining; occlusal examination; sinus tract exploration;</p>	Lectures & Seminars & Clinical Demonstration
17	<p>Management of Traumatized and luxated teeth Objectives: -Have knowledge of the prevention of dental trauma, especially during sporting pursuits. - Have knowledge of the principles and practice of managing dentoalveolar trauma, including crown fractures, crown-root fractures, root fractures, luxation injuries, avulsions.</p>	Lectures & Seminars & Clinical Application
18	<p>Endodontic emergency Objectives: -Competently manage of endodontic emergencies, including reversible pulpitis, symptomatic irreversible pulpitis, symptomatic apical periodontitis, acute apical abscess (including mid-treatment ‘flare-ups’), hypochlorite accidents and cracked/fractured teeth.</p>	Lectures & Seminars & Clinical Application
19	<p>Evaluation of success and failure in Endodontics</p>	Lectures & Seminars & Clinical Application

Week	Topic and Learning Objectives	Instructional Methods
	<p>Objectives: Be familiar with outcome data for a range of conditions including nonsurgical endodontic retreatment, apicectomy and root canal filling, conventional and resin-bonded bridgework, implant-supported prostheses.</p>	
20	<p>Lasers & new technologies in conservative endodontics practice.</p> <p>Objectives:</p> <ul style="list-style-type: none"> -List the names of the new devices and techniques in endodontics. - Identify the new devices and instruments. 	Lectures & Seminars

Course title	Perio 2	Module code	
Credit hours	3	Semester/ year	Sem.9 5th year
Course prerequisites	Anatomy, physiology, biochemistry, dental anatomy, general pathology, microbiology, dental material, general medicine general surgery, pharmacology.	Course corequisites	Radiology , oral pathology , forensic dentistry m D.P.H , prosthesis , conservative dentistry , oral surgery ,crown and bridge , peadodontics , orthodontics , oral medicine.
Description	<p>This advanced clinical periodontics course focuses on recognize, classify, describe, and document clinical findings of periodontal diseases utilizing clinical slides, case studies, and patients treated in the clinic. Explain the rationale, clinical indicators, and technique for performing manual and ultrasonic periodontal debridement.</p> <p>Attend periodontal surgery, including preprosthetic surgery, reconstructive and plastic Surgery and dental implant.</p>		
Learning objectives	A student who successfully pass this course should:		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Chronic periodontitis	Def Types Clinical features severity	Chronic periodontitis	
	Clinic		Chronic periodontitis (t/s)	
2.	Bone loss	Concept Etiology Factors affecting alveolar bone morphology Different patterns of bone loss	Bone loss	
	clinic		Chronic periodontitis (t/s)	
3.	Periodontal pocket	Def Classification Pathogenesis Tomography of hard and soft tissue work	Periodontal pocket	
	clinic		Periodontal pocket (t/s)	
4.	Bone loss and periodontal pocket (tutorial / seminar)		Recession and furcation involvement	Def of R def of F.I Etiology Classifications
	clinic		Periodontal pocket (t/s)	
5.	Trauma from occlusion	Def treatment Types etiology	Mobility and pathological tooth migration	Grading Etiology Clinical assessment
	Clinic		Bone loss (t/s)	
6.	halitosis		Aggressive periodontitis	Localized aggressive & generalized aggressive Radiographic appearance treatment
	clinic		Recession and furcation involvement (t/s)	

7.	Aggressive periodontitis	Def Predisposing factors Difference between chronic and aggressive	Periodontal abscess	Def Classification Signs and symptoms treatment
	clinic		Trauma from occlusion (t/s)	
8.	Treatment plan		Phases of periodontal treatment	
	clinic		Mobility and pathological tooth migration (t/s)	
9.	Risk assessment	Def Different types of risk assessment	prognosis	
	clinic		Halitosis (t/s)	
10.	Chemotherapeutics agents	classification tetracycline minocycline doxycycline metronidazole penicillin amoxicillin clindamycin macrolides azithromycin local delivery antibiotics)	Chemotherapeutics agents	
	clinic		Aggressive periodontitis (t/s)	
11.	Aggressive periodontitis (t/s)		Periodontal abscess (t/s)	
	clinic			
12.	Treatment plan (t/s)		Treatment plan (t/s)	
	clinic		Phases of periodontal treatment (t/s)	
13.	Risk assessment (t/s)		Prognosis (t/s)	
	clinic		Chemotherapeutic agents (t/s)	

	<p>Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc</p>	<p>Tutorials , seminars , lectures and clinical</p>
	<p>Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc</p>	<p>Written exams , clinical exams , oral exams , OSCE</p>
	<p>Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc</p>	<p>Carranza , handouts , rose linda</p>

Course title	Special prosthodontics	Module code	
Credit hours		Semester/ year	9&10
Course prerequisites	Clinical prosthodontics	Course corequisites	
Description (overview of the course, rationale of teaching it, main objective)	<p>This course is provided during years 4&5, providing suitable removable substitutes for lost or missing natural teeth and their associated tissues to treat the impaired function, appearance, comfort, and the health of the patient. This includes the treatment planning and construction of a range of prosthetic appliances, including complete and partial dentures, immediate dentures, over dentures,maxillofacial prosthodontics and implantology.It consists of didactic and clinical components.</p>		
Learning objectives	<p>competent in the basic scientific knowledge pertaining to the treatment of edentulous and partially edentulous patients. 2. Proficient in the clinical management of uncomplicated cases requiring complete and conventional removable partial dentures. Have a good knowledge about the principle of Osseointegration. Know the anatomical structures of significance in implant insertion. Be familiar with the necessary steps for the planning of a single tooth implant replacement as well as the planning necessary for an implant supported overdenture. Able to critically appraise the quality of prosthetic laboratory work To develop interest for research and participation in research activities To treat all patients with equity and respect. 9. To develop attitude for ethical practice & perfect patient care andmanagement.</p>		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Over denture (L)	Definition, classification, advantages, disadvantages, indication, contraindication and construction	CLINIC	
	0.5 CH (T,P,S)			
2.	Immediate denture(L)	Definition, classification, advantages, disadvantages, indication, contraindication and construction	CLINIC	
3.	COPY DENTUER (L)		CLINIC	
4.	Single complete denture(L)	Statement of the problem of complete denture against natural teeth. Combination syndrome, definition, mechanism, impression technique, selection of artificial teeth	CLINIC	
5.	Maxillofacial prostheses (L)	Definition, causes of cleft palate and complications	CLINIC	
6.	Material used in maxillofacial prosthodontics(L)	Acrylic resin, metallic	CLINIC	
7.	Obturator and splint(L)t	Definition, classification, advantages, disadvantages, indication, contraindication and construction	CLINIC	
	Obturator and splint(T)	Definition, classification, advantages, disadvantages,		

		indication, contraindication and construction		
8.	Relining, Rebasing and Repairs(L)	Definition, indication, contraindication, clinical and laboratory procedure	CLINIC	
9.	Introduction to implantology(L)	History, types according to the shape, material used.	CLINIC	
10.	Patient selection diagnosis and treatment plan (L)	Criteria for patient selection, according to the general and dental health and condition of the bone level. Classification of bone	CLINIC	
11.	Principle of Osseointegration	Attachment of implant to the tissue	CLINIC	
12.	Implant Assisted Removable Partial Overdenture(L)	Surgical part Prosthetic part in construction of implant supported over denture	CLINIC	
	Implant Assisted Removable Partial Overdenture(T)			
13.	Impression techniques(L)	different impression techniques	CLINIC	
14.	Peri-Implant Soft Tissue Management (L)	Management of peri-implantitis	CLINIC	

15.	CAD –CAM(L)	Definition and introduction to CAD-CAM procedure	CLINIC	
16.	COSMATIC INDEX (L)		CLINIC	
17.	IMPLANT FAILURE(L)	Complication of implant Failure related to surgery Failure related to prosthetic treatment	CLINIC	

	Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc	Lectures , tutorials , clinical
	Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc	Written exams , clinical assessment , spotter , oral
	Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc	Maxillofacial prosthetics by –William R. Laney. Contemporary implant by Carl O Misch

Course title	Fixed prosthodontics	Module code	
Credit hours	3	Semester/ year	Semester1 5th year
Course prerequisites	Oral pathology Physiology Dental anatomy Dental materials Prosthodontics Conservative dentistry	Course corequisites	Dental anatomy Radiology Dental materials Conservative dentistry
Description (overview of the course, rationale of teaching it, main objective)			
Learning objectives	<p>A student who successfully pass this course should:</p> <ul style="list-style-type: none"> — Show evidence of knowledge of design of retainer and pontics according to the case Biologically and aesthetically treat patient in need of fixed prosthodontics so that all function and mechanical requirement are met Have adequate knowledge to work in harmony with citify dental technology Demonstrate the ability to carry out the laboratory step resulting in the satisfactory completion of several units of crown or fixed partial denture for patient 		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Criteria of abutment selection(lecture)	-how to select the abutment -problem facing in abutment -abutment vitality	Criteria of abutment selection(seminar)	
	Clinic			
2.	Component of bridge(pontics)(lecture)	Definition -aim -requirement -function Classification- advantages Disadvantages	Component of bridge(pontics)(seminar)	
	Clinic			
3.	Connector(lecture)	- definition..types..requirement of ideal solder..factor affect success of soldering procedure..solder alloy..soldering technique..soldering investment..soldering defect	Connector(seminar)	
	Clinic			
4.	Retainer(lecture)	Definitions..objective of tooth preparation in general..classification of retainer..requirement of ideal retainer..advantage of full veneer retainer..disadvantage of full veneer retainer..indication of full veneer retainer..indication of partial veneer retainer..contra	Retainer(seminar)	

		<p>indication of partial veneer retainer..advantage of partial veneer retainer ..selection of retainer..factor affecting selection of retainer</p>		
	Clinic			
5.	Treatment plan and replacement of missing teeth(lecture)	<p>-prosthetic technique replacing missed tooth..factor affecting selection of prosthesis type..bio mechanical consideration..clinical consideration in treatment plan..considerations taken in bridge design and clinical procedure ..different treatment modalities</p>	Treatment plan and replacement of missing teeth(tutorial)	
	Clinic			
6.	Adhesive bridge(lecture)	<p>Definition -indication -contra indication -advantages Dis advantages -posterior design -mechanism of bonding -method of adhesive bonding -causes of failure of resin bonding bridge</p>	Treatment plan and replacement of missing teeth(seminar)	
	Clinic			
7.	Conventional bridge(lecture)	<p>Cantilever definition. Advantage. Dis advantage..indication ..contraindication..fixed fixed bridge..definition.</p>	Conventional bridge(lecture)	<p>-fixed support..definition. Advantage. Dis advantage..indication ..contraindication..fixed</p>

		Advantage. Dis advantage..indicatio n..conta indication..		movable.. definition. Advantage. Dis advantage..indic ation ..conta indication..
	Clinic			
8.	Indirect veneer(lecture)	Definition -type -indication -contra indication -preparation -cementation	Conventional bridge(seminar)	
	Clinic			
9.	Restoration of endodontically treated teeth(lecture)	Definition -advantages -dis advantages -classification	Restoration of endodontically treated teeth(lecture)	-preparation of endodontically treated tooth to receive post crown -procedure of tooth preparation -pattern fabrication for cast post crown -core fabrication -post crown for multi rooted teeth
	Clinic			
10.	Restoration of endodontically treated teeth(tutorial)		Restoration of endodontically treated teeth(tutorial)	
	Clinic			
11.	Restoration of endodontically treated teeth(seminar)			
	Clinic			
12.	Occlusion in fixed prosthodontics(lecture)	TMJ joint .anatomy.. condyler movement	Occlusion in fixed prosthodontics(lectur e)	Mandibular movement..occl usion of

				teeth..dynamic and static occlusion
	Clinic			
13.	Occlusion in fixed prosthodontics(tutorial)		Occlusion in fixed prosthodontics(semin ar)	
	Clinic			

	Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc	Lecture. Tutorial.clinicalwork
	Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc	Written exam.osci
	Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc	Book.handout

Course title	ORTHODONTIC	Module code	
Credit hours	2 hours	Seconed Semester / 4th year	
Course prerequisites	Anatomy. Dental anatomy. Radiology. Periodontics. Paedodontics. Oral surgery. Dental materials.	Course corequisites	Paedodontics. Periodontics. Dental materials.
Description (overview of the course, rationale of teaching it, main objective)	The course acquires knowledge of orthodontic problems and their management. To familiarize students to trace cephalometric, roentgenograms and space analysis control.		
Learning objectives	A student who successfully pass this course should: Enable the qualifying dental students to diagnose, analyse and treatment planning in common orthodontic problems.		

Content				
Week number	Session title	Session details	Session title	Session details
1.	History, examination	Extra and intra oral examination	Practical lap Construction of spring	Single cantilever spring
2.	orthodontic and treatment planning	Orthodontic problem facial and smile aesthetic	Practical lap Construction of spring	Single cantilever spring
3.	Orthodontics planning	* Basic principles in orthodontic treatment planning. * methods of gaining spaces.	Practical lap Construction of spring	Double cantilever spring(z- spring)
4.	Anchorage in orthodontics	Definition. Classification. Types. Stability of anchorage.	Practical lap Construction of spring	Double cantilever spring(z- spring)
5.	Biomechanical principle in orthodontics tooth movement	Different types of tooth movement. Tissue response to orthodontic force application. Age factor in orthodontics tooth movement	Practical lap Construction of spring	T – springs on premolars.
6.	Preventive orthodontics	Definition. Different procedures undertaken in preventive orthodontics.	Practical lap Construction of spring	T – springs on premolars.
7.	Interceptive orthodontics	Space regaining. Correction of anterior and posterior cross bite. Elimination of oral habits. Muscle exercise.	Practical lap Construction of spring	Construction of canine retractors.
8.	Serial extraction	Definition. Indications. Contra-indication. Technique. Dis \ advantages	Practical lap Construction of spring	Construction of canine retractors.
9.	Habits	Thump sucking. Tongue thrusting.	Practical lap Construction of spring	Labial bow one on both upper and lower

		Mouth breathing. Long face syndrome.		
10.	Orthodontic appliances	Classification. Indications	Practical lap Construction of spring	Labial bow one on both upper and lower
11.	Space maintenance	Introduction. Planning of space maintenance. Types. Space regianer.	Practical lap Construction of spring	Base plate.

	Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc	Lectures, tutorials , practicals
	Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc	Written exam, OSCI.
	Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc	Textbooks, website.

DENTA Course No. & code: 0486 Paedo2

Course Title: Paediatric dentistry 2

Course duration:

2 hour lectures – 3 hours clinical (2 + 1 = 3 credit hours)

Specific Course Objectives:

By the end of this course student should:

- Have enough knowledge to diagnose and determine the indicated pulp treatment of primary and young permanent teeth. .
- Competent in the clinical skills needed to perform the different techniques of pulp treatment of primary and young permanent teeth.
- Have adequate knowledge about management of dental injuries
- Be able to diagnose the various dental injuries and provide emergency treatment.
- Have sound understanding about the development of occlusion and the role of both paediatric dentist and orthodontist.

Contents

Theoretical course contents (and methods of instructions):

- 1) Pulp Therapy of primary and young permanent teeth : **lecture**

Different between pulp in primary and permanent dentition.

Randa M. F. Ibrahim

Classification of pulpal and periradicular diseases.

Classification of pulpal treatment.

- 2) Pulp Therapy of primary and young permanent teeth : **Seminar** Diagnostic aids and evaluation.

Different pulp capping materials

- 3) Vital Pulp Therapy (Indications, contraindications, techniques, materials used): **Problem based**

Indirect pulp capping Direct pulp capping Pulpotomy Apexogenesis

- 4) Non-Vital Pulp Therapy (Indications, contraindications, techniques, materials used): **Problem based**

Pulpectomy Apexification. Revascularization.

(Indications, contraindications, techniques, materials used)

- 5) Management of trauma to teeth and supporting tissues (1): **lecture** Introduction, classification and prevention.

- 6) Management of trauma to teeth and supporting tissues (2): **lecture** History of the trauma.

Clinical and radiographic examination.

- 7) Management of trauma to teeth and supporting tissues (3): **Problem based** Management of trauma to primary dentition.

Sequelae of trauma to primary dentition.

- 8) Management of trauma to teeth and supporting tissues (4): **Problem based**

Management of trauma to permanent dentition: crown fractures

- 9) Management of trauma to teeth and supporting tissues (5): **Problem based**

Management of trauma to permanent dentition: crown root fractures, root fractures and dento-alveolar fractures.

- 10) Management of trauma to teeth and supporting tissues (6): **Problem based**

Management of trauma to permanent dentition: periodontal tissues injury

- 11) Management of trauma to teeth and supporting tissues (7): **Problem based**

Management of trauma to permanent dentition: avulsion

Management of trauma to permanent dentition: complications of periodontal tissues injury

12) Paedo – ortho interface : **Lecture**

- a) Development of occlusion.
- b) Space analysis.

13) Paedo – ortho interface: **Problem based** Early loss of teeth and space maintenance.

14) Paedo – ortho interface: **Problem based**

- a) Oral habits
- b) Anterior /posterior crossbite

15) Paedo – ortho interface: **Problem based** Eruption problems and eruption guidance.

Clinical training includes:

- History taking, examination and charting.
- Taking different X- ray views and their interpretations
- Different preventive techniques including fluoride application and fissure sealants - Atraumatic restorations
- Preventive resin restorations.
- Simple restorations in primary teeth (C11 to CL 5) - Stainless steel crowns
- Extraction of primary teeth.
- Pulp treatment in primary teeth.
- Simple cases of space maintainers.

Methods of instruction:

- Lectures
- Seminars
- Small group discussion
- Problem based learning
- Clinical instruction

Method of assessment and evaluation

- 1) Written examination: 40 %
- 2) Objective Structured Practical Examination (OSPE): 15 %
- 3) Objective Structured Practical Examination (OSPE): 15 %
- 4) Student's portfolio: 30 %

This result will account for 10 % of the final exam.

The student should not score less than 50 % in both the clinical & theoretical exams.

Suggested Readings and References

- 1) Richard Welbury, Monty S. Duggal, Marie Therese Hosey Paediatric Dentistry.
- 2) R.J. Andlaw, W. Rock

A Manual of Pediatric Dentistry.

- 2) Angus Cameron, Richard Widmer Handbook of Paediatric Dentistry.
- 3) Casamassimo, Fields, Mctigue and Nowak Pediatric Dentistry: Infancy through Adolescence.
- 4) Jeffry A. Dean

McDonald and Avery's Dentistry for the Child and Adolescent.

L PUBLIC HEALTH AND EPEDIMIOLOGY:

Course title	Dental public health	Module code	
Credit hours	two credit hours	Semester/ year	8th ---4th year
Course prerequisites		Course corequisites	
Description (overview of the course, rationale of teaching it, main objective)	To facilitate the student acquisition of knowledge and skills in identification of the different types of health problems and introducing the concept of situation analysis.		
Learning objectives	<p>A student who successfully pass this course should:</p> <ul style="list-style-type: none"> -Define the concepts and terminology of health -Describe the concept and level of preventions -Define the different types of health problems -Identify the different sources of health problems -Describe the steps of situational analysis -describe the technique of sitting the health problem priorities -Define the principals, and theories of health promotion and education -Identify the different types and styles for learning -applying the principals of health promotion in dental problems 		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Professionalism 1st hour	Definition, medical professionalism, behavior and behavior professionalism	Measures of central tendency 2 nd hour	
	3rd hour (if 3 credit hours)			
2.	Ethics 2nd hour	Definition, principal, content		
3.	Behavior management 2nd hour	Definition, types of communication		
4.	Pit and fissure sealant 2nd hour			
5.	A traumatic restoration 2nd hour	Definition, principals, indication and contraindication, steps		
6.	Diet and caries process 2nd hour	Importance of diet to oral tissues, sugar substitutes, oral carbohydrates clearance, protective food components		
7.	Health system 1st hour	Definition, WHO system framework	Fieldworks 4 th hour (if 4 credit hours)	Visit to school
8.	Health promotion 1st hour	Definition, concept, aim, principal	Fieldworks 4 th hour (if 4 credit hours)	Visit to school

9.	Evidence base practice 1 st hour	Definition	Fieldworks 4 th hour (if 4 credit hours)	Visit to school
10.	Primary health care 2 nd hour	Definition		
11.	Community priorities 2 nd hours			
12.	Behavior sciences 2 nd hours			
13.	Sociology sciences 2 nd hours			

	Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc	
	Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc	
	Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc	

SEMESTER 9:

ORAL MEDICINE & RADIOLOGY

Course Overview:

This course help the student to explain principles of diagnosis and treatment of common orofacial diseases and disorders, moreover the student will be able to describe the basic principles of diagnostic imaging , practice radiation protection and safety in addition to performing and interpretation of basic oral and maxillofacial radiographic examinations .

Course Objectives :

At the completion of the undergraduate training program the graduate should:

- 1-Be able to differentiate the normal variations and oral mucosal lesions
- 2- Be able to identify pre cancerous and cancerous lesions of the oral cavity and refer to the concerned specialty for their management.
- 3- Have an adequate knowledge about common laboratory investigations and interpretation of their results.
- 4- Have adequate knowledge about medical complications that can arise while treating systemically compromised patients and take prior precautions/ consent from the concerned medical specialist.
- 5-Formulate a clinical diagnosis, order investigations, seek expert consultations to reach a final diagnosis and draw a proper treatment plan.
- 6- Have adequate knowledge about radiation health hazards,radiation safety and protection.
- 7- Be competent to take intra-oral radiographs and interpret the radiographic findings
- 8- Gain adequate knowledge of various extra-oral radiographic procedures, TMJ radiography and sialography.
- 9- Be aware of the importance of intra- and extra-oral radiographs in forensic identification and age estimation.

Sl.No.	Topic	Hours	Ins.M
	SECTION (A) - DIAGNOSTIC METHODS.		
1.	Definition and importance of Diagnosis and various types of diagnosis	1	LECTECT
2.	Method of clinical examinations.	2	LECT DE DEMO
	(a) General Physical examination by inspection.		
	(b) Oro-facial region by inspection, palpation and other means		
	(c) To train the students about the importance, role, use of saliva and techniques of diagnosis of saliva as part of oral disease		
	(d) Examination of lesions like swellings, ulcers, erosions, sinus, fistula, growths, pigmented lesions, white and red patches		
	(e) Examination of lymph nodes		
	(f) Forensic examination - Procedures for post-mortem dental examination; maintaining dental records and their use in dental practice and post-mortem identification; jurisprudence and ethics.		
3.	Investigations	2	LECT
4.	(a) Biopsy and exfoliative cytology (b) Hematological, Microbiological and other tests and investigations necessary for diagnosis and prognosis		
	SECTION (B) - DIAGNOSIS, DIFFERENTIAL DIAGNOSIS		
	While learning the following chapters, emphasis shall be given only on diagnostic aspects including differential diagnosis		
5.	Anomalies of Skull – No., Size, Shape, other defects. (1) Anomalies of jaw bones – a. Mandible, (Ant. region, Body, Post. region (angle), Ramus b. Maxilla (Ant. region, Post. region, palate) (2) Teeth: Developmental abnormalities, causes of destruction of teeth and their sequelae and discoloration of teeth	1	TBL
6.	Diseases of bone and Osteodystrophies: Development disorders: Anomalies, Exostosis and tori, infantile cortical hyperostosis, osteogenesis imperfecta, Marfans syndrome, osteopetrosis. Inflammation - Injury, infection and spread of infection, fascial space infections, osteoradionecrosis.	1	LECT SEM

7.	Metabolic disorders – Histiocytosis	1	LECT
8.	Endocrine - Acro-megaly and hyperparathyroidism Miscellaneous - Paget's disease, Mono and polyostotic fibrous dysplasia, Cherubism.	1	SEM
9.	Anomalies of Temporomandibular joint: No., size, shape, position, function - Developmental abnormalities of the condyle, Rheumatoid arthritis, Osteoarthritis, Sub-luxation and luxation.	1	LECT
10.	Common cysts and Tumors: CYSTS: Cysts of soft tissue: Mucocele and Ranula Cysts of bone: Odontogenic and nonodontogenic. TUMORS: Soft Tissue: Epithelial: Papilloma, Carcinoma, Melanoma Connective tissue: Fibroma, Lipoma, Fibrosarcoma Vascular: Haemangioma, Lymphangioma Nerve Tissue: Neurofibroma, Traumatic Neuroma, Neurofibromatosis Salivary Glands: Pleomorphic adenoma, Adenocarcinoma, Warthin's Tumor, Adenoid cystic carcinoma. Hard Tissue: Non Odontogenic: Osteoma, Osteosarcoma, Osteoclastoma, Chondroma, Chandrosarcoma, Central giant cell tumor, and Central haemangioma Odontogenic: Enameloma, Ameloblastoma, Calcifying Epithelial Odontogenic tumor, Adenomatoid Odontogenic tumor, Periapical cemental dysplasia and odontomas	3	TBL
11.	Periodontal diseases: Gingival hyperplasia, gingivitis, periodontitis, pyogenic granuloma	1	SEM
12.	Granulomatous diseases: Tuberculosis, Sarcoidosis, Midline let hal granuloma, Crohn's Disease and Histiocytosis X	1	SEM
13.	Miscellaneous Disorders: Burkitt lymphoma, Sturge - Weber syndrome, CREST syndrome, rendu-osler-weber disease	1	SGW
	SECTION (C): ORAL MEDICINE AND THERAPEUTICS.		
	The following chapters shall be studied in detail including the etiology, pathogenesis, clinical features, investigations, differential diagnosis, management and prevention	2	
14.	Infections of oral and paraoral structures: Bacterial: Streptococcal, tuberculosis, syphilis, Vincent's, leprosy, actinomycosis, diphtheria and tetanus Fungal: Candida albicans Virus: Herpes simplex, herpes zoster, Ramsay Hunt syndrome, measles, herpangina, mumps, infectious mononucleosis, AIDS and hepatitis-B		SEM LECT
15.	Important common mucosal lesions: White lesions: Chemical burns, leukoedema, leukoplakia, Fordyce spots, stomatitis nicotina palatinus, white sponge nevus, candidiasis, lichen planus, discoid lupus erythematosus Vesiculo-bullous lesions: Herpes simplex, herpes zoster, herpangina, bullous lichen planus, pemphigus, cicatricial pemphigoid erythema multiforme. Ulcers: Acute and chronic ulcers Pigmented lesions: Exogenous and endogenous	3	LECT

	Red lesions: Erythroplakia, stomatitis venenata and medicamentosa, erosive lesions and denture sore mouth.		
16.	Cervico-facial lymphadenopathy	1	
17.	Facial pain: (i) Organic pain: Pain arising from the diseases of orofacial tissues like teeth, pulp, gingival, periodontal tissue, mucosa, tongue, muscles, blood vessels, lymph tissue, bone, paranasal sinus, salivary glands etc., (ii) Pain arising due to C.N.S. diseases: (iii) Pain due to intracranial and extracranial involvement of cranial nerves. (Multiple sclerosis, cerebrovascular diseases, trotter's syndrome etc. (iv) Neuralgic pain due to unknown causes: Trigeminal neuralgia, glossopharyngeal neuralgia, sphenopalatine ganglion neuralgia, periodic migrainous neuralgia and atypical facial pain (v) Referred pain: Pain arising from distant tissues like heart, spine etc.,	1	LECT
18.	Altered sensations: Cacogeusia		
19.	Tongue in local and systemic disorders: (Aglossia, ankyloglossia, bifid tongue, fissured tongue, scrotal tongue, macroglossia, microglossia, geographic tongue, median rhomboid glossitis, depapillation of tongue, hairy tongue, atrophic tongue, reactive lymphoid hyperplasia, glossodynia, glossopyrosis, ulcers, white and red patches etc.	1	LECT
20.	Oral manifestations of: (i) Metabolic disorders: (a) Porphyria (b) Haemochromatosis	4	LECT

	(c) Histocytosis X diseases		
	(ii) Endocrine disorders: (a) Pituitary: Gigantism, acromegaly, hypopituitarism (b) Adrenal cortex: Addison's disease (Hypofunction) Cushing's syndrome (Hyperfunction) (c) Parathyroid glands: Hyperparathyroidism. (d) Thyroid gland: (Hypothyroidism) Cretinism, myxedema (e) Pancreas: Diabetes		LECT SEM TBL
	(iii) Nutritional deficiency: Vitamins: riboflavin, nicotinic acid, folic acid Vitamin B12, Vitamin C (Scurvy)		
	(iv) Blood disorders: (a) Red blood cell diseases Deficiency anemias: (Iron deficiency, Plummer- Vinson-syndrome, pernicious anemia) Haemolytic anemias: (Thalassemia, sickle cell anemia, erythroblastosis fetalis) Aplastic anemia Polycythemia (b) White Blood cell diseases Neutropenia, cyclic neutropenia, agranulocytosis and leukemias.		
21.	Disease of salivary glands: (a) Development disturbances: Aplasia, atresia and aberration (b) Functional disturbances: Xerostomia, ptyalism (c) Inflammatory conditions: Nonspecific sialadenitis, mumps, sarcoidosis heerdfort's syndrome (Uveoparotid fever), Necrotising sialometaplasia (d) Cysts and. tumors: Mucocele, ranula, pleomorphic adenoma, mucoepidermoid carcinoma. (e) Miscellaneous: Sialolithiasis, Sjogren's syndrome, Mikuliez's disease and sialosis	1	LECT
22.	Dermatological diseases with oral manifestations: (a) Ectodermal dysplasia (b) Hyperkeratosis palmarplantaris with periodontopathy (c) Scleroderma (d) Lichen planus including ginspan's syndrome (e) Lupus erythematosus (f) Pemphigus (g) Erythema multiforme (h) Psoriasis	1	LECT
23.	Immunological diseases with oral manifestations (a) Leukemia (b) Lymphomas (c) Multiple myeloma (d) AIDS clinical manifestations (e) opportunistic infections (f) neoplasms (g) Thrombocytopenia (h) Lupus erythematosus (i) Scleroderma (j) Dermatomyositis (k) Submucous fibrosis (l) Rheumatoid arthritis (m) Recurrent oral ulcerations including behcet's syndrome and reiter's syndrome	1	LECT
24.	Allergy: Local allergic reactions, anaphylaxis, serum sickness (local and systemic allergic manifestations to food drugs and chemicals)	2	
25.	Foci of oral infection and their ill effects on general health		SEM
26.	Management of dental problems in medically compromised persons: (a) Physiological changes: Puberty, pregnancy and menopause (b) The patients suffering with cardiac, respiratory, liver, kidney and bleeding disorders, hypertension, diabetes and AIDS. Post-irradiated patients.		
27.	Precancerous lesions and conditions	1	LECT
28.	Nerve and muscle diseases:		

	<p>(i) Nerves: (a) Neuropraxia (b) Neurotemesis (c) Neuritis (d) Facial nerve paralysis including Bell's palsy, Heerfordt's syndrome, Melkerson Rosentel syndrome and ramsay hunt syndrome (e) Neuroma (f) Neurofibromatosis (g) Frey's syndrome</p>	2	LECT
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	(ii) Muscles: (a) Myositis ossificans (b) Myofascial pain dysfunction syndrome (c) Trismus		SGW
	Part - II ORAL RADIOLOGY		
31.	Scope of the subject and history of origin	1	LETT
32.	Physics of radiation: (a) Nature and types of radiations (b) Source of radiations (c) Production of X-rays (d) Properties of X-rays (e) Compton effect (f) Photoelectric effect (g) Radiation measuring units	4	LECT
33.	Biological effects of radiation	1	LECT
34.	Radiation safety and protection measures	1	LECT
35.	Principles of image production	1	LECT
36.	Radiographic techniques:		
	(i) Intra-Oral: (a) Periapical radiographs (Bisecting and parallel techniques) (b) Bite wing radiographs (c) Occlusal radiographs	3	DEMO LECT
	(ii) Extra-oral: (a) Lateral projections of skull and jaw bones and paranasal sinuses (b) Cephalograms (c) pantomograms (d) Projections of temporomandibular joint and condyle of mandible (e) Projections for Zygomatic arche (f) Specialised techniques: • Sialography • Xeroradiography • Tomography	3	DEMO LECT
37.	Factors in production of good radiographs: (a) K.V.P. and mA. of X-ray machine (b) Filters (c) Collimations (d) Intensifying screens (e) Grids (f) X-ray films (g) Exposure time (h) Techniques (i) Dark room (j) Developer and fixer solutions (k) Film processing	4	DEMO LECT
38.	Radiographic normal anatomical landmarks	2	SEEM
39.	Faulty radiographs and artefacts in radiographs	1	LECT
40.	Interpretation of radiographs in various abnormalities of teeth, bones and other orofacial tissues	1	LECT
41.	Principles of radiotherapy of Oro-facial malignancies and complications of radiotherapy	1	LECT
42.	Contrast radiography and basic knowledge of radio-active isotopes	1	LECT
43.	Recent Advances in Imaging-cone beam technique	1	LECT
44.	Radiography in Forensic Odontology - Radiographic age estimation and postmortem radiographic Methods	2	LECT

v. Clinicals:

1. Training in:

- Patient examination
- Patient assessment
- Treatment planning
- Medications if any, with dose
- Floll owupprotocols

2. In view of the above each student shall maintain a record of work done, which shall be evaluated for marks at the time of university examination.

3. The following is the minimum clinical requirement to appear for University examination:

- a) Recording of detailed case histories of interesting cases-10
- b) Routine OP, short cases – minimum 100 (third and Final year)
- c) Intra-oral radiographs (Periapical, bitewing, occlusal)-25
- d) Discussions - should have participated in a minimum of 20 long case discussions
- e) Investigative procedures – Biopsy, Cytology etc:-

c) SCHEME OF EXAMINATION

Distribution of Topics and Types of Questions for University Written Examination:

Contents	Types of Questions and Distribution of Marks	Total Marks
One question from oral medicine and one from radiology	Structured Essays 2x 14marks	28
A. Diagnostic Methods – Two questions B. Differential Diagnosis - two questions C. Therapeutics– Two question D. Radiation Physics – One question E. Techniques – Two Questions F. Radiographic Interpretation – One Question	Brief structured Essays 4 x 8marks	32
A. Four Questions from Oral Medicine B. Four Questions from Radiology C. Two from Forensic Odontology	Short Answers 10x4marks	40
	Total	100

vii. Theory

University Written

25 Marks Viva Voce:

viii. Clinicals:

University Clinical Examination:

Spotters (1 mark each)

Discussion Long Case 1x30

Taking and Interpretation of Radiograph 1x30

Work Record and seminar

Internal Assessment:

TOTAL

Grand Total

100 Marks Internal Assessment

25 Marks

80 Marks

1x 10 10 Marks

30 Marks

30 Marks

10 Marks

20 Marks

100 Marks

250M

Recommended References

Oral and Maxillofacial Surgery:

- (1) Impacted teeth, Alling John et al
- (2) Principles of Oral & maxillofacial Surgery vol1,2&3 Peterson LJ et al
- (3) Text book of Oral & maxillofacial Surgery, Srinivasan B
- (4) Hand book of Medical emergencies in the dental office, Melamed SF
- (5) Killey's Fracture of the Mandible, Banks
- (6) Killey's Fractures of the Middle 3 of the Facial Skeleton; Banks P
- (7) The Maxillary Sinus and its Dental Implications; Mc Govanda
- (8) Killey and Kays Outline of Oral Surgery - Part I & 2; Seward GR & et al
- (9) Essentials of Safe Dentistry for the Medically Compromised Patients; Mc Carthy FM
- (10) Oral & Maxillofacial Surgery, Vol I & 2; Laskin DM
- (11) Extraction of Teeth; Howe GL
- (12) Minor Oral Surgery; Howe GL
- (13) Contemporary Oral & Maxillofacial Surgery; Peterson LJ
- (14) Text book of Oral & Maxillofacial Surgery, Neelima Anil Malik
- (15) Text book of Oral & Maxillofacial Surgery, SM Balaji
- (16) Principles of Oral Surgery; Moore J'R
- (17) Handbook of Local Anaesthesia, Malamed
- (18) Sedation; Malamed
- (19) Text book of Oral & Maxillofacial Surgery; Gustav O Kruger
- (20) A Practical guide to Hospital Dentistry, Dr. George Varghese, Jaypee brothers publishing, New Delhi.
- (21) A Practical guide to the Management of Impacted Tooth, Dr. George Varghese, Jaypee brothers publishing, New Delhi.
- (22) Textbook of Local Anaesthesia; Monheim

Oral Medicine and Radiology:

Oral Diagnosis, Oral Medicine & Oral Pathology

- 1) Oral Medicine, Burkit, J.B. Lippincott Company
- 2) Principles of Oral Diagnosis, Coleman, Mosby Year Book
- 3) Oral Manifestations of Systemic Diseases, Jones, W.B. Saunders company
- 4) Oral Diagnosis & Oral Medicine, Mitchell
- 5) Oral Diagnosis, Kerr
- 6) Oral Diagnosis & Treatment, Miller
- 7) Clinical Methods, Hutchinson
- 8) Shafers, Oral Pathology
- 9) Principles and practice of Oral Medicine, Sonis.S.T., Fa

Oral Radiology:

- 1) Oral Radiology White & Goaz, Mosby year Book
- 2) Dental Radiology, Weahrman, C.V. Mosby Company
- 3) Oral Roentgenographs Diagnosis, Stafne, W.B. Saunders Co
- 4) Fundamentals of Dental radiology, Sikri, CBS Publishing, R.C. and Fang.L

Module title Restorative Dentistry III	
Credit hours 2	
Coordinating department .Oral Rehabilitation Department	
Description This course is aimed towards the reinforcement of the previous knowledge gained in the early courses and help in updating the students' information. It will be directed towards the clinical applications of the principles of different cavity preparations as well as the different types of restorative materials and pulp management at all stages	
Learning objectives:	
<p>By the end of this course the student should be able to:</p> <ul style="list-style-type: none"> Integrate the principles of occlusion within the clinical case-based setting Plan and manage extensive posterior restorations Treat patients requiring direct complex anterior and posterior aesthetic restorations Manage aesthetically demanding patients Access and manage the patient requiring vital bleaching procedure Plan treatment of patients requiring indirect restorations Make clinical decisions in terms of diagnosis and setting-up of appropriate treatment plans, and providing endodontics treatment Management of difficult cases in endodontics and gaining advanced knowledge in updated endodontic treatment modalities. Be clinically competent in all fields of endodontics. Classification of dental trauma to the teeth and alveolar bone. Management of the different traumatic injuries with pulpal involvement. Classification and management of root resorption. Materials and methods for restoring Endodontically treated teeth Advance techniques and material in endodontic practice. 	
Week number	Session title
1.	Adhesive Dentistry
2.	Aesthetic Dentistry
3.	Management of the Severely Worn Out Dentition.
4.	Restoration of badly destructed teeth
5.	Huge fillings retention
6.	Failure of Restorations & Management
7.	Advanced Restorative Dentistry.
8.	Root Resorption
9.	Management of Traumatized Teeth
10.	Surgical Endodontics
11.	Corrective Surgery
12.	Evaluation of Success & Failure
13.	Orthograde Retreatment

14.	Endodontic emergencies
15.	Restoration of Endodontically Treated Teeth
16.	New Advances in Endodontics
	<p>Learning strategies</p> <p>1 Problem Baed Learnig</p> <p>Case Presentation</p> <p>Seminars</p> <p>4 Tutorials</p> <p>5 Assignments</p> <p>6 Small group discussion</p> <p>clinical sessions</p>
	<p>Assessment strategies :</p> <p>Continuous assessment 20%</p> <p>MCQS 20%</p> <p>Structural Short Answers (SSA) 20%</p> <p>Extended matching questions and problems solving 20%</p> <p>OSCE 20%</p>
	<p>Resources</p> <p>Sturdevant's Art & Science of Operative Dentistry, 5th ed., 2006, Mosby, by Theodore M. Roberson</p> <p>Fundamentals of Operative Dentistry: A Contemporary Approach, 3rd edition 2006, Quintessence Books, by James B. Summit, J. William Robbins, Richard S. Schwartz</p> <p>Atlas of Operative Dentistry: Preclinical and Clinical Procedures. 1985, Quintessence Books, by Dr. Joseph R. Evans</p>

ENDODONTICS 2:

Module title	Endodontic 2
Credit hours	3
Coordinating department. Restorative Dentistry	
Description This course is aimed towards the reinforcement of the previous knowledge gained in the early courses and help in updating the students' information. It will be directed towards the clinical applications of the principles of different cavity preparations as well as the different types of restorative materials.	
Learning objectives By the end of this course the student should be able to: Make clinical decisions in terms of diagnosis and setting-up of appropriate treatment plans, and providing endodontics treatment Management of difficult cases in endodontics and gaining advanced knowledge in updated endodontic treatment modalities. Be clinically competent in all fields of endodontics. Classification of dental trauma to the teeth and alveolar bone. Management of the different traumatic injuries with pulpal involvement. Classification and management of root resorption. Materials and methods for restoring Endodontically treated teeth Advance techniques and material in endodontic practice.	
Week number	Session title
1.	Root Resorption
2.	Management of Traumatized Teeth
3.	Surgical Endodontics
4.	Corrective Surgery
5.	Evaluation of Success & Failure
6.	Orthograde Retreatment
7.	Endodontic emergencies
8.	Restoration of Endodontically Treated Teeth
9.	New Advances in Endodontics
10.	Root Resorption
11.	Management of Traumatized Teeth
12.	Surgical Endodontics
13.	Endodontic by Looping
14.	Endodontic microscope
15.	Endodontic Problem
	Learning strategies 1 Lectures .2 Seminars 3 Tutorials 4 Assignments 5 Small group discussion
	Assessment strategies Attendance and performance

	<p>continuous assessment Assignments Written Examination</p>
	<p>Resources Pathway of the Pulp by: Cohen & Hargreaves, 9th edition, 2006 Endodontic by: Ingle & Bakland, 6th edition, 2007 Problem solving in Endodontics by :Gutmann et al, 4rd ed. (2005) Endodontics, principles and practice by: Torabinejad & Walton, 4th edition, 2009</p> <p>Pathway of the Pulp by: Cohen & Hargreaves, 9th edition, 2006 Endodontic by: Ingle & Bakland, 6th edition, 2007 Problem solving in Endodontics by :Gutmann et al, 4rd ed. (2005) Endodontics, principles and practice by: Torabinejad & Walton, 4th edition, 2009</p>

PERIODONTOLOGY3:

Course title	Perio 4	Module code	
Credit hours	3	Semester/ year	10th sem , 5th year
Course prerequisites		Course corequisites	
Description (overview of the course, rationale of teaching it, main objective)			
Learning objectives	A student who successfully pass this course should: — — — — — — — — — — — —		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Principles of periodontal surgery	General principles Periodontal dressing Instruction following periodontal surgery Treatment of sensitivity complications	Gingivectomy and healing after gingivectomy	Def objectives Indications contraindications Types Disadvantages
	clinic		Principles of periodontal surgery (t/s)	
2.	Gingivectomy and healing after gingivectomy		flaps	Def incision Classification objective Indications sutures
	clinic		Gingivectomy and healing after gingivectomy (t/s)	
3.	flaps	Different types and its advantages , disadvantages and techniques	Additive surgery	
	clinic		Flaps (t/s)	
4.	Additive surgery		Resective surgery	Def Terminologies Types of osseous surgery Techniques of osseous surgery Healing following osseous surgery
	clinic		Additive surgery (t/s)	
5.	Muco-gingival surgery	Composition of muco-gingival complex Def classification Objectives Criteria for technique selection	Treatment of furcation involvement and recession	Surgical and non-surgical methods of treatment
	clinic		Resective surgery (t/s)	
6.	Maintenance		Perio-endo lesions	Classification and it's details

	clinic		Mucogingival surgery (t/s)	
7.	Restorative-perio considerations	Concept of biological width Crown lengthening Biologic considerations	Introduction to implant	Concept of Osseointegration Classification Landmark consideration of upper and lower jaws
	clinic		Treatment of furcation involvement and recession (t/s)	
8.	Prosthetic implant	Closed technique Open technique	Management of complications and perimplantitis	Def of implantitis Causes
	Clinic		Maintenance (t/s)	
9.	Lesser in periodontics		Perio-endo lesions (t/s)	
	clinic		Restorative-perio considerations (t/s)	
10.	Introduction to implant (t/s)		Prosthetic implant (t/s)	
	clinic		Management of complications and peri-implantitis (t/s)	
11.	Laser in periodontics (t/s)		Lec	

	<p>Learning strategies (methochs used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc</p>	<p>Tutorials , lectures , clinic , seminar</p>
	<p>Assessment strategies (methochs used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc</p>	<p>Written exam , clinical exams , oral exams ,OSCE</p>
	<p>Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc</p>	<p>Carranza , rose linda handouts</p>

REMOVABLE PROSTHODONTICS 3:

Course title	Special prosthodontics	Module code	
Credit hours		Semester/ year	9&10
Course prerequisites	Clinical prosthodontics	Course corequisites	
Description (overview of the course, rationale of teaching it, main objective)	<p>This course is provided during years 4&5, providing suitable removable substitutes for lost or missing natural teeth and their associated tissues to treat the impaired function, appearance, comfort, and the health of the patient. This includes the treatment planning and construction of a range of prosthetic appliances, including complete and partial dentures, immediate dentures, over dentures, maxillofacial prosthodontics and implantology. It consists of didactic and clinical components.</p>		
Learning objectives	<ol style="list-style-type: none"> 1. competent in the basic scientific knowledge pertaining to the treatment of edentulous and partially edentulous patients. 2. Proficient in the clinical management of uncomplicated cases requiring complete and conventional removable partial dentures. 3. Have a good knowledge about the principle of Osseointegration. 4. Know the anatomical structures of significance in implant insertion. 5. Be familiar with the necessary steps for the planning of a single tooth implant replacement as well as the planning necessary for an implant supported overdenture. 6. Able to critically appraise the quality of prosthetic laboratory work 7. To develop interest for research and participation in research activities 8. To treat all patients with equity and respect. 9. To develop attitude for ethical practice & perfect patient care and management. 		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Over denture (L)	Definition, classification, advantages, disadvantages, indication, contraindication and construction	CLINIC	
	0.5 CH (T,P,S)			
2.	Immediate denture(L)	Definition, classification, advantages, disadvantages, indication, contraindication and construction	CLINIC	
3.	COPY DENTUER (L)		CLINIC	
4.	Single complete denture(L)	Statement of the problem of complete denture against natural teeth. Combination syndrome, definition, mechanism, impression technique, selection of artificial teeth	CLINIC	
5.	Maxillofacial prostheses (L)	Definition, causes of cleft palate and complications	CLINIC	
6.	Material used in maxillofacial prosthodontics(L)	Acrylic resin, metallic	CLINIC	

7.	Obturator and splint(L)t	Definition, classification, advantages, disadvantages, indication, contraindication and construction	CLINIC	
	Obturator and splint(T)	Definition, classification, advantages, disadvantages, indication, contraindication and construction		
8.	Relining, Rebasing and Repairs(L)	Definition, indication, contraindication, clinical and laboratory procedure	CLINIC	
9.	Introduction to implantology(L)	History, types according to the shape, material used.	CLINIC	
10.	Patient selection diagnosis and treatment plan (L)	Criteria for patient selection, according to the general and dental health and condition of the bone level. Classification of bone	CLINIC	
11.	Principle of Osseointegration	Attachment of implant to the tissue	CLINIC	
12.	Implant Assisted Removable Partial Overdenture(L)	Surgical part Prosthetic part in construction of implant supported over denture	CLINIC	
	Implant Assisted Removable Partial Overdenture(T)			
13.	Impression techniques(L)	different impression techniques	CLINIC	

14.	Peri-Implant Soft Tissue Management (L)	Management of peri-implantitis	CLINIC	
15.	CAD –CAM(L)	Definition and introduction to CAD-CAM procedure	CLINIC	
16.	COSMATIC INDEX (L)		CLINIC	
17.	IMPLANT FAILURE(L)	Complication of implant Failure related to surgery Failure related to prosthetic treatment	CLINIC	

	Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, ..., etc	Lectures , tutorials , clinical
	Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, ..., etc	Written exams , clinical assessment , spotter , oral
	Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc	Maxillofacial prosthetics by –William R. Laney. Contemporary implant by Carl O Misch

Course title	Fixed prosthodontics	Module code	
Credit hours	3	Semester/ year	Semester2 5th year
Course prerequisites	Oral pathology Physiology Dental anatomy Dental materials Prosthodontics Conservative dentistry	Course corequisites	Dental anatomy Radiology Dental materials Conservative dentistry
Description (overview of the course, rationale of teaching it, main objective)			
Learning objectives	<p>A student who successfully pass this course should:</p> <ul style="list-style-type: none"> — Show evidence of knowledge of design of retainer and pontics according to the case Biologically and aesthetically treat patient in need of fixed prosthodontics so that all function and mechanical requirement are met Have adequate knowledge to work in harmony with citify dental technology Demonstrate the ability to carry out the laboratory step resulting in the satisfactory completion of several units of crown or fixed partial denture for patient 		

Content				
Week number	Session title	Session details	Session title	Session details
1.	Advanced ceramic material and technique(lecture)	-strengthening mechanisms of dental ceramic -classification of all ceramic system		
	Clinic			
2.	Periodontal aspect of fixed prosthodontics(lecture)	-anatomy -axial crown contour -emergency profile -occlusal morphology	Periodontal aspect of fixed prosthodontics(lecture)	-crown margins -pontics design -splinting -method used for splinting -determination of abutment -determination of prognosis
	Clinic			
3.	Periodontal aspect of fixed prosthodontics(tutorial)		Periodontal aspect of fixed prosthodontics(seminar)	
	Clinic			
4.	Esthetics consideration (lecture)	Soft tissue management..tooth reduction ..shade selection ..color variation	Esthetics consideration (lecture)	- translucency..surface characteristic..tooth form size..arch position..effect of optical illusion
	Clinic			
5.	Esthetics consideration (tutorial)		Esthetics consideration (seminar)	
	Clinic			
6.	Care and maintenance(lecture)	-prevention following crown and bridge cementation..maintenance service	Care and maintenance(tutorial)	

	Clinic			
7.	Care and maintenance(seminar)		Care and maintenance(seminar)	
	Clinic			
8.	Failure in fixed prosthodontics(lecture)	-causes of fix prosthesis failure..classification... maintenance failure	Failure in fixed prosthodontics(tutorial)	
	Clinic			
9.	Failure in fixed prosthodontics(seminar)		Failure in fixed prosthodontics(seminar)	
	Clinic			
10.	Repair in fixed prosthodontics(lecture)	- fracture porcelain..failure of solder joint veneer ..occlusal wear..discolored veneer material		
	Clinic			
11.	removal of fixed prosthodontics(lecture)	-aim of removal of fixed prosthesis -method of removal -removal of special restoration	Removal of fixed prosthodontics(seminar)	
	Clinic			
12.	Implantology(lecture)	Osseous integrity -advantages -dis advantages -indication -contra indication -types Treatment planning for implant -implant component	Implantology(lecture)	-implant restoration options -implant impression technique
	Clinic			

13.	Implantology(tutorial)		Implantology(se minar)	
	Clinic			

	Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc	Lecture.tutorial.clinical work
	Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc	Written exam .osci
	Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, ..etc	Book.hand out

Course No. & code: D0595 Paedo III

Course Title: Paediatric Dentistry III

Course duration:

1(2) H. Lect - 3 h. clinical (2 (3) credit hours)

Course Objectives (specific):

By the end of this course student should:

- Be able to recognize any special requirements needed for dental management of medically compromised children and those with special needs
- Be familiar with the different disabilities, their oral implications dental manifestations
- Have enough knowledge on the preventive strategies for management of these groups of children.
- Be familiar with comprehensive dental care for medically, physically, mentally or socially compromised children and adolescents
- Have understanding on the multi and inter-disciplinary management of these groups of children.
- Have enough knowledge on diagnosis and management of the periodontal diseases and oral medicine in relation to children and adolescents.

Contents

Theoretical course contents:

- 1) Advanced restorative treatment: **lecture** Bleaching and veneers.
- 2) Management of Medically Compromised Children. **Problem based** Cardiovascular disorders
- 3) Management of Medically Compromised Children. **Problem based** Haematologic disorders
- 4) Management of Medically Compromised Children. **Problem based** Respiratory disorders

Convulsive disorders

5) Management of Medically Compromised Children. **Problem based** Metabolic and Endocrine disorders

Renal and hepatic disorders

6) Management of Medically Compromised Children. **Problem based** Neoplastic disorders

Organ transplant

7) Management of medical emergencies: **Problem based**

8) Management of Children with special needs. **Seminar**

9) Management of Children with special needs. **Seminar** Physical impairment

Sensory impairment.

10) Periodontal diseases in children: **lecture**

a) Variations between child and adult periodontium

b) Gingivitis and acute gingival lesions in children

11) Periodontal diseases in children: **lecture**

a) Aggressive periodontitis

b) Periodontitis as a manifestation of systemic diseases

12) Oral surgery of the paediatric patient: **lecture**

a) Simple exodontia and impacted teeth

b) Management of orofacial infections

13) Oral medicine in children: **lecture**

a) Soft tissue lesions

14) Oral medicine in children: **lecture**

a) Lesions of the jaws

15) Oral medicine in children: **lecture**

a) Oral manifestation of systemic diseases

Clinical training includes:

- History taking, examination and charting.
- Taking different X- ray views and their interpretations
- Different preventive techniques including fluoride application and fissure sealants
- Atraumatic restorations
- Preventive resin restorations.
- Simple restorations in primary teeth (C11 to CL 5)
- Stainless steel crowns
- Pulp treatment in primary teeth.
- Extraction of primary teeth.
- Simple cases of space maintainers.
- Assistance in the management of at least one case of medically compromised or special need child.

Methods of instruction:

- Lectures
- Seminars
- Small group discussion
- Problem based learning
- Clinical instruction

Methods of assessment and evaluation

- 1) Written examination: 40 %
- 2) Objective Structured Practical Examination (OSPE): 15 %
- 3) Objective Structured Practical Examination (OSPE): 15 %
- 4) Student's portfolio: 30 %

This result will account for 10 % of the final exam.

Suggested Readings and References

- 1) Richard Welbury, Monty S. Duggal, Marie Therese Hosey Paediatric Dentistry.
- 2) R.J. Andlaw, W. Rock
- 3) Angus Cameron, Richard Widmer Handbook of Paediatric Dentistry.
- 4) Casamassimo, Fields, McTigue and Nowak Pediatric Dentistry: Infancy through Adolescence.
- 5) Jeffrey A. Dean

McDonald and Avery's Dentistry for the Child and Adolescent.

ORTHODONTICS3:

Course title	ORTHODONTIC	Module code	
Credit hours	1 hour	First Semester/ 5th year	First semester/5th year
Course prerequisites	Anatomy. Dental anatomy. Radiology. Periodontics. Paedodontics. Oral surgery. Dental materials.	Course corequisites Paedodontics. Periodontics. Dental materials.	Paedodontics. Periodontics. Dental materials.
Description (overview of the course, rationale of teaching it, main objective)	The course acquires knowledge of orthodontic problems and their management. To familiarize students to trace cephalometric, roentgenograms and space analysis control.		
Learning objectives	A student who successfully pass this course should: Enable classify the different orthodontic problems. Introduce the common orthodontic appliances. Acquire knowledges of surgical orthodontics.		

Content		
Week number	Session title	Session details
1.	Class 1 malocclusion.	Definition. Etiology. Treatment of: Crowding. Spacing. Midline diastema. Bimaxillary proclination
2.	Class 11 div 1.	Definition. Etiology. Treatment of increased overjet. Gummy smile
3.	Class 11 div 11.	Stable correction of class 11 div 11, deep bite.
4.	Class 111.	Definition. Etiology
5.	Removable orthodontic appliances	Components. Indications for their uses. Designing removable appliances. Instructions to the patients.
6.	Myo functional appliances	Anterior and posterior bite plane. Their uses.
7.	Functional appliances.	Types (removable and fixed)and their uses. How Functional appliances work. Treatment procedure using Functional appliances.
8.	Extra-oral orthodontic appliances	Components. Indications for their uses. Headgear types. Uses.
9.	Fixed appliances	Components. Indications for their uses.
10.	Surgical orthodontics.	Indication Planning Orthodontics Common procedures
11.	Cleft lip and palate.	Prevalence. Etiology. Management

	Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc	Lectures, tutorials , practicals
	Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc	Written exam, OSCI.
	Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc	Textbooks, website.

Course title	ORTHODONTICS	Module code	
Credit hours	1 credit hour	Semester/ year	Second semester\5th year
Course prerequisites Anatomy. Dental anatomy. Radiology. Periodontics. Paedodontics. Oral surgery. Dental materials.		Course corequisites Paedodontics. Periodontics. Dental materials.	
Description (overview of the course, rationale of teaching it, main objective)	The course acquires knowledge of orthodontic problems and their management. To familiarize students to trace cephalometric, roentgenograms and space analysis control.		
Learning objectives	A student who successfully pass this course should: Masterize the cephalometric tracing and analysis. Masterize the cast analysis and interpretation. Prepared students to treat some simple cases.		

Content		
Week number	Session title	Session details
1.	Cephalometric analysis(1).	Cephalostate. Uses of Cephalometric . Cephalometric points. Cephalometric lines.
2.	Cephalometric analysis(2).	Anteroposterior skeletal pattern. Vertical skeletal pattern
3.	Cephalometric analysis (3).	Incisors position. Soft tissue analysis. Cephalometric errors
4.	Dental cast analysis.	Cast symmetry. Principles of space analysis. Estimating the size of unerupted permanent teeth. Tooth size analysis
5.	Impacted canine.	Etiology. Radiographic examination. Localization of maxillary canine. Management options.
6.	Space gaining methods.	Arch expansion. Distalization of molars. Up righting of tilted teeth.
7.	Extraction in orthodontic.	Importances. Indications. Selection of teeth for extraction.
8.	Skeletal maturity indicators.	Hand wrist x-ray. Cephalogram. High peak velocity.
9.	History and examination.	History sheet. Take history. Do examination. Make diagnosis and treatment plan.
10.	History and examination.	History sheet. Take history. Do examination. Make diagnosis and treatment plan.
11.	Impression.	Impression materials. Diagnostic impression.
12.	Cast analysis.	Importance. Uses. . Preparation of study models.

13.	Cephalometric analysis (1).	Cephalometric tracing. Treatment plan.
14.	Cephalometric analysis (2).	Cephalometric tracing. Treatment plan.

	Learning strategies (methods used to help student learn course contents) e.g. lectures, tutorials, practicals, clinical work, assignment, .., etc	Lectures, tutorials , practicals
	Assessment strategies (methods used to assess if the course objectives were met by students) E.g. written exam, OSPE, OSCI, .., etc	. written exam, OSCI.
	Resources (materials the students refer to for knowledge needed in this course) E.g. books, handouts, website, .. etc	Textbook, website.

SEMESTER TEN

Course: Comprehensive Integrated Oral Rehabilitation

Course Code: DNT 5101

Semester: 10

Credit hours: 6

Objectives:

The main general objective of this course (pregraduation internship course) is safety; safety of the student and of the patient who he or she will be treating in the future. This course will aim to integrate all the information attained in restorative Dentistry. This module will aim to introduce the student to more advanced techniques as well as refine the skills gained previously.

Specific Objectives:

The student will be expected to:

1. Be familiar with all aspects of basic restorative dentistry techniques taught in previous semesters.
2. A holistic approach to patient care will be encouraged under direct supervision.
3. The student should understand the full impact of restorative treatment and be able to refer appropriately.
4. The student should be encouraged to decisions regarding patient care and patient safety.
5. The student should be able to audit and appraise his/her work.
6. The student should be able to consent and treat patients to a reasonable level of care
7. The student will be have an opportunity to and will be encouraged to strengthen areas of weakness and/or pursue areas of interest.

Methods of assessment

- Case presentation 30%
- MCQS 20%
- Problems solving 30%
- OSCE 20%

Course: Comprehensive Integrated Oral and Maxillofacial surgery

Course code: DNT 5102

Semester: 10

Credit hours: 4

Objectives:

The main general objective of this course (pregraduation internship course) is safety, safety of the student and of the patient who he or she will be treating in the future, that is integrating all the information attained in oral maxillofacial surgery, oral medicine, radiology and pathology to produce future high quality knowledge and successful oral surgeon.

Specific Objectives

1. Control of cross- infection: Student should learn to be part of the dental team having a duty to insure that all necessary steps are taken to prevent cross-infection in order to protect their patients, colleagues and themselves. Provided adequate precautions are taken routinely.
2. Students should have the adequate knowledge and should be able to create differential diagnosis of the following :
 - a) Orofacial pain
 - b) Facial swelling
 - c) Dental related haemorrhage

- d) Maxillofacial trauma
- e) Head and neck neoplasia

3. Minor oral surgical procedures: Students should be able assess impacted teeth including third molars, able to perform simple dento-alveolar surgical procedures and to know different surgical flap patterns.
4. Student should be fully aware of the oral medicine cases deferential diagnosis and their management options (bacterial, fungal and viral infections of the oral mucosa, oral ulceration, and the visculobullous lesions,dry mouth syndromes.)
5. Prescribing: students should be able to prescribe drugs for the different ranging diseases (analgesia, chemotherapeutics, antibiotics, antiviral, antifungal, mouth washes, steroids, and antihistamines e.t.c.) this including (in- patients and out patients)
6. Investigations: students should be able write , read and interpret adequate investigations to assists in diagnosis (for in patients: CBC,APTT,PT,urinalysis,CXR, ECG)
7. Ward rounds, hospital admissions: students should be familiar with the hospital environment , including clerking admitted patients , reading the patients files and taking an active parting the general management of the patients and theaters and operations under general anesthetics .
8. Special risk patients: students should be able to provide special care for patients with special need (prophylaxis against endocarditic, patients on steroid therapy or with Addison disease and patients with hemorrhagic disease e.t.c)
9. Emergency in practice: students should have adequate knowledge about emergency situations and how to react if itoccur and the emergency drugs and instruments needed.
10. Radiography: students should knowledgeable about radiographs necessary to attain diagnosis.
11. Referral specialists : students should know the proper way of referral to specialist in the field of dentistry and the medical profession
12. To fulfill the requirement of this course an intensive of seminars, tutorials and assignments will be held.

Methods of assessment

- Case presentation 30%
- MCQS 20%
- Problems solving 30%
- OSCE 20%

Course: Comprehensive Paediatric Dentistry & Orthodontic.

Course cod BDS 5103

Semester: 10

Credit hours: 5

General Objectives:

The main aim of this course (pregraduation internship course) is to encourage a wider approach to patient care. This module will encourage the student to think of the whole patient to tailor management plan to the whole patient.

Specific Objectives

1. The student should be comfortable with individual techniques taught previously and should start applying this knowledge in clinical scenarios.
2. The student should identify different patient needs and start to tackle more advanced procedures and more challenging paediatric patients under supervision.

Specific Objectives

The students should appreciate ethical issues related to child patient care

1. The student should be able to devise a long term treatment plan that is tailored and relevant to patients and families.
2. The student should be sufficiently adept at tackling children with no behavioural challenges and be able to gain the trust of that child
3. The student should be able to refer appropriately and ethically and understand the value of team work in the overall care of child patients.

Methods of assessment

- Case presentation 30%
- MCQS 20%
- Problems solving 30%
- OSCE 20%