



Course Specifications

Institution:	College of dentistry
Academic Department:	Department of Maxillofacial surgery & Diagnostic Sciences
Programme:	BDS
Course:	Local Anesthesia and Exodontia
Course Coordinator :	Mouetaz Kheirallah
Programme Coordinator:	Dr. Abdul Rahman Al Atram
Course Specification Approved Date :	13/ 11 / 1436 H



A. Course Identification and General Information

1 - Course title :	Local Anesthesia and Exodontia	Course Code:	213 MDS
2. Credit hours :	1 hour		
3 - Program(s) in which the course is offered:	Dentistry		
4 – Course Language :	English		
5 - Name of faculty member responsible for the course:	Mouetaz Kheirallah		
6 - Level/year at which this course is offered :	2nd year		
7 - Pre-requisites for this course (if any) :	<ul style="list-style-type: none"> • ANA 113 		
8 - Co-requisites for this course (if any) :	<ul style="list-style-type: none"> • 		
9 - Location if not on main campus :	Zulfi		
10 - Mode of Instruction (mark all that apply)			
A - Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	85 %
B - Blended (traditional and online)	<input checked="" type="checkbox"/>	What percentage?	5 %
D - e-learning	<input checked="" type="checkbox"/>	What percentage?	5 %
E - Correspondence	<input type="checkbox"/>	What percentage?	
F - Other	<input checked="" type="checkbox"/>	What percentage?	5%
Comments :	Using smart board, attractive Audio-visual Aids		

B) Objectives:

What is the main purpose for this course?

This course is a series of weekly lectures extending over two semesters and formed of two parts.

1. Local anaesthesia: which covers patient assessment and his suitability for local anaesthesia and surgery, pain control, neuroanatomy of the oral cavity and peri-oral tissue, neurophysiology, pharmacokinetics of the drugs used in local anaesthesia and any local or systematic complications which may occur, and how to avoid and how to manage.
2. Exodontia [teeth extraction]: which covers sterilization, control of infection, the different methods for extraction [intra-alveolar and trans-alveolar], the used instruments [forceps and elevators], suture types and materials.

Briefly describe any plans for developing and improving the course that are being implemented :





It covers indications and contraindications for teeth extraction, post-operative instructions and follow-up. Lastly, complications which may occur during or after extraction and surgery, how to reduce and manage. Additionally Practical demonstration will be included.

C. Course Description

1. Topics to be Covered

List of Topics	No. of Weeks	Contact Hours
History of Anesthesia, Osteology of Maxilla and Mandible: <ul style="list-style-type: none"> - EARLY HISTORY OF ANESTHESIA - DISCOVERY OF INHALATION ANESTHESIA - SUBSEQUENT ADVANCES - MAXILLA, - Surfaces of Body of Maxilla - Body of Maxilla (Sides, base) - Processes of Maxilla - PALATINE BONE - Pyramidal process - MANDIBLE - Parts - Body - Ramus - Superior View 	1	1
Neuroanatomy, Neurophysiology: <ul style="list-style-type: none"> - THE TRIGEMINAL NERVE - Functions, - Attachment, - Divisions, - Course, - Types of Fibers, - Trigeminal Ganglion, - Roots, - Branches, - Pterygopalatine Ganglion, - Desirable properties of local anaesthetics, - The Axon, - ACTIONS OF LOCAL ANESTHETIC AGENTS, - ANATOMY OF A NERVE CELL OR A NEURON, - Types of Nerve Fibers, - PHYSIOLOGY OF PERIPHERAL NERVES, - ELECTROCHEMISTRY, - Repolarization, - MEMBRANE CHANNELS, - Impulse Propagation, - FACTORS AFFECTING NERVE 	1	1



<ul style="list-style-type: none"> - CONDUCTION, - EFFECTIVENESS OF LOCAL ANESTHETIC AGENTS. 		
<p>Theories of Pain Perception AND Mode of Action of Local Anaesthetic Agents:</p> <ul style="list-style-type: none"> - Fundamentals of impulse generation - Specificity Theory, - Pattern Theory, - Gate-control Theory, - DUAL NATURE OF PAIN, - Pain Reaction, - MECHANISM OF ACTION, - Acetylcholine Theory, - Surface Charge Theory, - Membrane Expansion Theory, - Specific Receptor Theory. 	1	1
<p>Local Anaesthetic Agents and Vasoconstrictors:</p> <ul style="list-style-type: none"> - PROPERTIES OF AN IDEAL LOCAL ANESTHETIC AGENT, - CLASSIFICATIONS, - PROPERTIES OF SPECIFIC LOCAL ANESTHETIC AGENTS, - Procaine, Benzocaine, - Water-soluble Topical Anaesthetic Agents - Lidocaine Hydrochloride, - INJECTABLE LOCAL ANESTHETIC AGENTS, - Lignocaine (lidocaine, xylocaine, octocaine, dentocaine), - Local anaesthetic agents with a vasoconstrictor, - Local anaesthetic agents without a vasoconstrictor, - Large dose, - Mepivacaine, - Prilocaine, - SELECTION OF LOCAL ANESTHETIC AGENTS, - Centbucridine (Bucricaine, Centoblock), - Ropivacaine, - Articaine. - Vasoconstrictors, - ACTIONS, - CLASSIFICATIONS, - ADRENERGIC RECEPTORS, - DILUTION OF Vasoconstrictors , - PHARMACOLOGY OF SPECIFIC AGENTS, - EPINEPHRINE, - Norepinephrine, - Medical or Physical Status of the Patient, - Medications Concurrently Taken , - CONTRAINDICATIONS. 	1	1
<p>Local Anaesthetic Cartridges and Vials Indications: Contraindications, Advantages and Disadvantages: Armamentarium: - LOCAL ANESTHETIC DRUG</p>	1	1



<ul style="list-style-type: none"> - VASOPRESSOR/VASOCONSTRICTOR DRUG - PRESERVATIVE FOR VASOPRESSOR - Clinical Relevance - SODIUM CHLORIDE - Methods of Pain Control - INDICATIONS - CONTRAINDICATIONS - Absolute Contraindications - Relative Contraindications - ADVANTAGES - DISADVANTAGES - Gasserian Ganglion Injection - Peripheral Alcohol Injections - Extracranial Nerve Section and Nerve Avulsion - Intracranial Section of the Posterior Sensory Root - ESSENTIAL COMPONENTS (Syringes, Cartridges and Needles) 		
<p>Uses of local anaesthesia:</p> <ul style="list-style-type: none"> - Diagnostic use - Therapeutic use - Perioperative use 	1	1
<p>Basic Techniques of Local Anaesthesia:</p> <ul style="list-style-type: none"> - Surface or Topical Anesthesia - Infiltration Anesthesia or Local Infiltration - Maxilla and Mandible Technique - Types of Infiltration Anesthesia - Submucosal Injection - Paraperiosteal or Supraperiosteal Injection 	1	1
<p>Basic Techniques of Local Anaesthesia:</p> <ul style="list-style-type: none"> - Subperiosteal Injection - Supplementary Injections - Intraligament (Periodontal or Peridental) Injection - Intrapulpal Anesthesia - Intraosseous Injection Technique - Intraseptal Anesthesia - Local Infiltration of the Palate 	1	1
<p>Basic Techniques of Local Anaesthesia:</p> <ul style="list-style-type: none"> - Field Block - Difference between Field Block and Nerve Block - Nerve Block or Conduction Anesthesia - NERVE BLOCKS, Intraoral Nerve Blocks - Infraorbital Nerve Block - Posterior Superior Alveolar Nerve Block - Nasopalatine Nerve Block - Greater Palatine Nerve Block - Nerve Blocks for Maxillary Nerve - Extraoral Nerve Blocks - Infraorbital Nerve Block - Maxillary Nerve Block 	1	1
<p>Basic Techniques of Local Anaesthesia:</p>	1	1





<ul style="list-style-type: none"> - Injection Techniques for Mandibular Nerve and its Branches. - Intraoral Nerve Blocks - Pterygomandibular Block - Direct Technique - Indirect Technique - Long Buccal Nerve Block - Mental Nerve Block and Incisive Nerve Block - Gow-Gates' Mandibular Nerve Block - Akinosi (Closed Mouth) Mandibular Nerve Block - Extraoral Techniques for Anesthesia <p>Anesthetic Technique for Mandibular Nerve</p>		
<p>Newer Injection Techniques and Local Complications:</p> <ul style="list-style-type: none"> - COMPLICATIONS ARISING FROM THE DRUGS OR CHEMICALS USED FOR LOCAL ANESTHESIA - COMPLICATIONS ARISING FROM INJECTION TECHNIQUES - Needle-stick Injuries - Failure to Obtain Local Anesthesia - COMPLICATIONS ARISING FROM BOTH - Bizarre Neurological Symptoms - VASODEPRESSOR SYNCOPE - ADVERSE DRUG REACTIONS - Allergic Reactions - Toxic Reactions - Vasoconstrictor (Epinephrine) Overdose - Idiosyncratic Reactions - EMERGENCY DRUGS - EQUIPMENT USED FOR TREATMENT OF COMPLICATIONS 	1	1
<p>MEDICAL EMERGENCIES:</p> <p>History and Physical Examination:</p> <ul style="list-style-type: none"> - Observation of Patient, Medical Examination, - Patient identification, - Chief complaint, - Review of systems, - Physical examination, - Assessment and plan, 	1	1
<p>MANAGEMENT OF PATIENTS WITH COMPROMISING MEDICAL CONDITIONS</p> <ul style="list-style-type: none"> - Cardiovascular Problems - Pulmonary Problems - Renal Problems - Hepatic Disorders - Endocrine Disorders - Hematologic Problems - Neurologic Disorders <p>Pregnancy</p>	1	1
<p>Armamentarium for Basic Oral Surgery</p> <ul style="list-style-type: none"> - INSTRUMENTS FOR INCISING TISSUE - INSTRUMENTS FOR ELEVATING MUCOPERIOSTEUM - INSTRUMENTS FOR RETRACTING SOFT TISSUE - INSTRUMENTS FOR CONTROLLING HEMORRHAGE - INSTRUMENTS FOR REMOVING BONE - INSTRUMENTS FOR REMOVING SOFT TISSUE - FROM BONY DEFECTS 	1	1





<ul style="list-style-type: none"> - INSTRUMENTS FOR SUTURING MUCOSA - INSTRUMENTS FOR IRRIGATION - DENTAL ELEVATORS 		
EXTRACTION FORCEPS		
Extraction of teeth and roots <ul style="list-style-type: none"> - Clinical examination - Radiographic examination - Extraction of teeth - * Knowledge of tooth morphology - * Application of force related to tooth morphology - * Use of forceps * Use of elevators to assist and facilitate	1	1
Extraction of teeth and roots <ul style="list-style-type: none"> - Extraction procedure - The supporting hand - Chair position - Order of extraction of teeth Extractions in children under out-patient general anaesthesia	1	1
Extraction of teeth and roots <ul style="list-style-type: none"> - Extraction with surgeon seated - Fracture of the tooth - The transalveolar approach - Removal of roots after the socket has healed - Arrest of haemorrhage Post-extraction instructions	1	1
Principles of Uncomplicated Exodontia <ul style="list-style-type: none"> - INDICATIONS FOR REMOVAL OF TEETH - CONTRAINDICATIONS FOR THE REMOVAL OF TEETH CLINICAL EVALUATION OF TEETH FOR REMOVAL		
Principles of Uncomplicated Exodontia <ul style="list-style-type: none"> - RADIOGRAPHIC EXAMINATION OF TOOTH FOR REMOVAL - Relationship of Associated Vital Structures - Configuration of Roots - Condition of Surrounding Bone - PATIENT AND SURGEON PREPARATION - CHAIR POSITION FOR FORCEPS EXTRACTION MECHANICAL PRINCIPLES INVOLVED IN TOOTH EXTRACTION	1	1
<ul style="list-style-type: none"> - PROCEDURE FOR CLOSED EXTRACTION - Role of Opposite Hand - Role of Assistant during Extraction SPECIFIC TECHNIQUES FOR REMOVAL OF EACH TOOTH	1	1
<ul style="list-style-type: none"> - Modifications for Extraction of Primary Teeth - POSTEXTRACTION CARE OF TOOTH SOCKET - Perioperative and Postoperative Complications 	1	1
<ul style="list-style-type: none"> - Infection Control in Surgical Practice 	1	1



2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	1st semester	1	.....	.....	0	.....	1
	2nd semester	1			0		1
Credit	1st semester	1			0		1
	2nd semester	1	.....	.....	0	.....	1

3. Additional private study/learning hours expected for students per week.

2

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Learn the art of assessing patients and their suitability for all minor surgical procedures, by taking systematic history, including detailed medical history, thorough physical examination and the proper use of investigations.	Lectures, textbook, articles, discussion, audiovisual,	MCQs exams, short assay exams & quizzes.
1.2	Study and learn the applied surgical anatomy of the area and understand the neuroanatomy.	Lectures, textbook, articles, discussion, audiovisual,	MCQs exams, short assay exams & quizzes.
1.3	Appreciate and understand the physiology of pain and pain conduction in order to understand the mechanism of action of anaesthetic agents.	Lectures, textbook, articles, discussion, audiovisual,	MCQs exams, short assay exams & quizzes.
1.4	Understand the pharmacokinetics and the mode of action of the various local	Lectures, textbook, articles,	MCQs exams, short assay exams &



	NQF Learning Domains And Course Learning Outcomes		Course Teaching Strategies	Course Assessment Methods
	anaesthetic agents, the techniques employed to block nerve conduction and produce anaesthesia. The student, also, should study the possible complications, their aetiology, signs and symptoms, prevention and their management.		discussion, audiovisual,	quizzes.
1.5	Study and learn the methods and techniques employed to institute infection control measures, sterilization, asepsis and disinfection.		Lectures, textbook, articles, discussion, audiovisual,	MCQs exams, short essay exams & quizzes.
1.6	Learn about the indications and contraindications for extraction of teeth, study the different techniques and the methods used to perform teeth removal.		Lectures, textbook, articles, discussion, audiovisual,	MCQs exams, short essay exams & quizzes.
1.7	Learn about the intra-alveolar technique and the principles of forceps and elevators use.		Lectures, textbook, articles, discussion, audiovisual,	MCQs exams, short essay exams & quizzes.
1.8	Study the indications for trans-alveolar technique, the designing of flaps, the methods employed for bone removal and the different types of suture material.		Lectures, textbook, articles, discussion, audiovisual,	MCQs exams, short essay exams & quizzes.
1.9	Understand and give post-operative instructions and medications when necessary.		Lectures, textbook, articles, discussion, audiovisual,	MCQs exams, short essay exams & quizzes.
1.10	Recognise and manage the different complications encountered during extraction of teeth or immediately following the extraction.		Lectures, textbook, articles, discussion, audiovisual,	MCQs exams, short essay exams & quizzes.
2.0	Cognitive Skills			
2.1	Students will be able to select and use appropriate dental extraction instruments.	Textbooks, websites, seminars and Handouts, video.	Exams by written and oral quizzes. Problem solving questions carrying 50% of mark on tests given at the end of each topic and on end of semester examination. Group and individual assignments require application of analytical tools in problem solving tasks. Questioning, Review test, performance notice.	





	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
2.2	Students will be able to apply a critical thinking to suggest the differential diagnosis of various oral surgical problems	websites, seminars	Exams by written and oral quizzes, questioning, review test & performance notice.
2.3	Students will be able to perform treatment plan for patient need dental extraction of various types of teeth which are indicated for extraction.	websites, seminars	Exams by written and oral quizzes, questioning, review test & performance notice.
2.4	Student should be able to deal with dental extraction cases with different medical problems .	websites, seminars	Exams by written and oral quizzes, questioning, review test & performance notice.
3.0	Interpersonal Skills & Responsibility		
3.1	Students will understand how to work in groups	Eye to eye contacts and group works.	Group discussions
3.2	Students will do group projects , presentations and research.	Group works and presentations.	Group discussions and presentation evaluation .
4.0	Communication, Information Technology, Numerical		
4.1	Consent forms, subjective explanation of treatment plan to the patients.	By using attractive Audiovisual Aids. Justifications and brief descriptions	Clinical observation, reviewing patient file.
4.2	Communication with each other and with the teaching staff.	By using attractive Audiovisual Aids. Justifications and brief descriptions.	Group discussions
4.3	Using computer patient file recording .	By using attractive Audiovisual Aids. Justifications and brief descriptions.	Reviewing electronic patient file.
5.0	Psychomotor		
5.1	No psychomotor		

5. Schedule of Assessment Tasks for Students During the Semester:

	Assessment task	Week Due	Proportion of Total Assessment
1	Midterm exam	6 week	40%
2	Behavior and attitude	During the Course	5%





3	Research	During the Course	5%
4	Presentation	During the Course	5%
5	Quizzes	During the Course	5%
6	Final Written Examination	15 week	40%
	Total		100%

D. Student Academic Counseling and Support

Students are supported by academic guidance during office hours and provide them with guidance and advice, as well as scientific knowledge of students' problems and how to solve it.

E. Learning Resources

1. List Required Textbooks :

- Handbook of Local Anesthesia by Stanley F. Malamed
- Tooth Extraction: A Practical Guide By Paul Robinson

2. List Essential References Materials :

Contemporary Oral and Maxillofacial Surgery By Peterson, Ellis, Hupp, Tucker. 4 editions (2003).

3. List Recommended Textbooks and Reference Material :

- Contemporary oral and maxillofacial surgery 6th edition 2014 .

4. List Electronic Materials :

- www.pubmed.com.

5. Other learning material :

- Practical demonstration during the course

F. Facilities Required

1. Accommodation

- A class room with a seating capacity of 20 students, equipped with a projector and smart board.
- A well-equipped dental clinics to work with patients under supervision.

2. Computing resources

- Computer classroom.
- Internet connection.





3. Other resources

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching:

- Make questionnaires.
- Perform theoretical examination.
- Make seminars.

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor :

Assess the teacher's abilities and potentials by observations and assistance from colleagues, independent assessment of standards achieved by students, independent advice on assignment tasks.

3 Processes for Improvement of Teaching :

- Updating the educational process, involving in research
- Teachers will be subjected to go for up gradation of knowledge by attending the relevant conferences and will be encouraged to carry on a self-improvement.

4. Processes for Verifying Standards of Student Achievement

- Make 1st midterm, quiz and final examinations.
- Make evaluation to assess the student skill progress.
- Perform a questionnaire to evaluate the student's experience.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- Prepare work sheet for review; refresh the previous knowledge, and panel discussions.

Course Specification Approved
Department Official Meeting No (1) Date 17 / 11 / 1436 H

Course's Coordinator

Name : Moutaz Kheirallah

Signature :

Date : 13/ 11 / 1436 H

Department Head

Name : Moutaz Kheirallah

Signature :

Date : 17/ 11 / 1436 H

