

**COURSE SPECIFICATIONS
PROGRAMME**

**ORAL & MAXILLOFACIAL
SURGERY**

THIRD YEAR

Course Specification

Oral and maxillofacial surgery

University	Tripoli
Faculty	Dentistry

A- Administrative Information:

Course Title	Oral Surgery I
Code	O.M.F.S. III
Department offering the course	Department of Oral & Maxillofacial Surgery– Faculty of Dentistry, University of Tripoli
Programme(s) on which the course is given	B.D.S Program
Department(s) offering the programme	Faculty of Dentistry, University of Tripoli
Academic level/year	Third year
Taught hours	3hours/week (90 hours/year)

Lecture	Tutorial	Practical	Others	Total
2 hours/week		2 hours/week		3 hours/week
60 hours/year		60 hours/year		90 hours/year

B- Professional Information:

1. Overall aims of course:

- The course provides the undergraduate students with basic information and skills necessary to perform local anaesthesia and exodontia, and deal with the expected complications during oralsurgical procedures.
- To provide the students with sufficient knowledge and intellectual skills concerning different diseases and lesions affecting the oral and para-oral structures.
- To provide students with an appropriate formation of knowledge covering oral & maxillofacial surgery emergencies and common diseases in the oral & maxillofacial region in children and adults.
- To enable students to recognize important clinical lesions and be familiar with recent methods of diagnosis and proper management.

2. Intended Learning outcomes of course (ILOs)

a) Knowledge and understanding

By the end of the course, students should be able to:

- Describe the basic anatomy and physiology of oral & maxillofacial region.
- Determine the different types of local anesthetic drugs and biotransformation, excretion and systemic action.
- Discuss principles, types and techniques of local anaesthesia.
- Identify complications of local anaesthesia.
- Determine the indication and contra-indication of dental extraction (systemic and local) and pre-operative assessment before dental extraction.
- Describe different techniques for extraction of permanent teeth.

- Discuss complications of extraction of teeth.
- Determine the indications and principles of trans-alveolar extraction.
- describe aetiology and complications of impacted teeth and techniques used for their surgical removal
- Describe classification, radiographic evaluation, surgical techniques and postoperative care for impacted teeth (third molars, premolar & canines).
- Recognize techniques for pre-prosthetic surgery.
- Describe the management of patients with systemic diseases in oral surgery.
- Discuss principles and techniques for oral implantology.
- Recognize the concepts and mechanisms of infection control.

b) Intellectual skills

By the end of the course, students should be able to:

- Explain factors leading to complications in local anaesthesia.
- Determine factors leading to complications in extraction of teeth.
- Identify causes of surgical problems for patients.

c) Professional and practical skills

By the end of the course, students should be able to:

- Apply local anaesthesia in different intra oral locations.
- Manage the complications which may arise during local anaesthesia application.
- Perform basic surgical techniques.
- Undertake exodontia of teeth.
- Perform extractions for different types of teeth using the appropriate dental forceps.
- Remove roots fractured during exodontias.
- deal with roots fractured during exodontia using the appropriate surgical instruments
- Remove retained roots including the raising of a mucoperiosteal flap.
- Remove simple impacted teeth.
- Perform the necessary procedures for controlling haemorrhage during oral surgical procedures.
- Perform the necessary procedures for controlling complications of oral surgery both general (medical) and local (surgical) intra-operatively and post-operatively.
- Provide adequate instructions to the patient following surgical procedures to ensure proper healing.
- Apply basic surgical technique including the raising of a mucoperiosteal flap, bone removal and suturing.
- Assess and select patients requiring oral surgical procedures on clinical basis.
- Provide immediate (including life-saving) care for emergency cases.
- Identify, select, appropriately use and manage the needed surgical armamentarium.

d) General and transferable skills

By the end of the course, students should be able to:

- Associate in group activities to develop baseline understanding and implementation of teamwork performance strategies.
- Integrate computer search for development of self learning.

- Display ability to gather information through seminar presentations.
- Communicate effectively with patients, colleagues and staff members.
- Exhibit ethical practices during patient care.
- Manage time, set priorities and work to prescribed time limits.
- Communicate with colleagues and the public.

e) Attitude

By the end of the course, students should be able to:

- Demonstrate ethical relationship with staff.
- Deliver care to patients with professionalism, self confidence and communication.

3. Course contents:

No.	Lecture Title	Lecture Subtitle
1.	Introduction	• Definition. • History. • Scope. • Aims. • Objectives.
2.	Principles of surgery	
	(1)Preoperative health status evaluation:	• Medical history: – Biographic data. – Chief complaint. – History of the chief complaint. – Medical history. – Review of systems. • Physical examination. • Risk assessment. • Management of patients with medically compromised patient: – Conditions. – Cardiovascular problems. – Pulmonary problems. – Renal problems. – Hepatic disorders. – Endocrine disorders. – Hematologic problems. – Neurologic disorders. • Management of pregnant and postpartum patients: – Pregnancy. – Postpartum.
	(2)Prevention and management of medical emergencies:	• Prevention. • Preparation: – Continuing education. – Office staff training. – Access of help. – Emergency supplies and equipment.

		• Medical emergencies – Hypersensitivity reactions. – Chest discomfort. – Respiratory difficulty: a. Asthma. b. Hyperventilation. c. Chronic obstructive pulmonary disease. d. Foreign body aspiration. e. Gastric contents aspiration. – Altered consciousness. a. Vasovagal syncope. b. Orthostatic hypotension. c. Seizure. d. Local anaesthetic toxicity. e. Diabetes mellitus. f. Thyroid dysfunction. g. Adrenal insufficiency. h. Cerebrovascular compromise.
	(3)Principles of surgery:	• Developing a surgical technique. • Basic necessities for surgery. • Aseptic technique: – Flap. – Flap design: a. Prevention of flap necrosis. b. Prevention of flap dehiscence. c. Prevention of flap tearing. – Intra-oral: a. Mucoperiosteal flaps. b. Principles. c. Commonly used intra-oral incisions. – Extra oral: a. Skin incisions. b. Principles. c. Various extra-oral incision to expose facial skeleton: (1)Submandibular. (2)Pre-auricular. (3)Incision to expose maxilla & orbit. (4)Bicoronal incision. – Bone removal: a. Methods of bone removal. b. Use of burs. c. Bone cutting instruments. • Tissue handling. • Haemostasis. • Means of promoting wound haemostasis. • Dead space management. • Decontamination and debridement. • Suturing:

		– Principles. – Resorbable sutures. – Nonresorbable sutures. – Suture sizes. – Suture handling. – Needles. – Basic suturing techniques. – Postoperative care of sutured wounds. • Oedema control. • Patient general health and nutrition.
	(4)Wound repair	• Wound repair. – Aetiology of tissue damage. – Epithelialisation. – Stages of wound healing. • Surgical significance of wound healing concepts. – Factors that impair. – Healing by primary and secondary intention. – Healing of extraction sockets. – Bone healing. – Implant osseointegration. – Nerve injury and repair.
	(5)Principles of asepsis	• Communicable pathogenic organisms. – Bacteria. a. Upper respiration tract flora. b. Maxillofacial skin flora. c. Non-maxillofacial flora. – Viral organisms. a. Hepatitis viruses. b. Human immunodeficiency virus. – Mycobacterial organisms • Aseptic technique and universal precautions. – Terminology. – Concept. – Techniques of instrument sterilization. – Techniques of instrument disinfection. – Maintenance of sterility. a. Disposable materials. b. Surgical field maintenance. – Operatory disinfection. – Surgical staff preparation. a. Antiseptics. b. Clean technique. c. Sterile technique. d. Postsurgical asepsis. – Patient preparation. • Principles of infection control and cross-infection with particular reference to HIV/AIDS and hepatitis.

	(6)Control of haemorrhage during surgery	• Normal haemostasis. • Local measures available to control bleeding. • Hypotensive anaesthesia etc.
	(7)Drainage & debridement	• Purpose of drainage in surgical wounds. • Types of drains used. • Debridement. – Purpose. – Soft tissue debridement. – Bone debridement.
	(8)Post operative care	• Postoperative instructions. • Physiology of cold and heat. • Control of pain – analgesics. • Control of infection – antibiotics. • Control of swelling – anti-inflammatory drugs. • Long term post operative follow up – significance.
3.	Local anaesthesia	• Introduction. • History. • Neural pathway of facial pain • Neurophysiology. • Concept & principle of L.A. • Classification of local anesthetic agents. • Ideal requirements. • types of local anaesthesia • Composition of local anesthetic agents. • Indications and contraindications. • Advantages and disadvantages. • Pharmacology of local anesthetics. • Use of vaso-constrictors in local anesthetic agent. – Pharmacology of vaso-constrictors. – Advantages, contraindications. – Various vaso-constrictors used. • Armamentariums. – Additional Armamentarium. a. Topical antiseptic. b. Topical anaesthetic. c. Applicator sticks. d. Cotton gauze. e. Haemostat. – Preparation of Armamentarium. • Techniques of local anaesthesia. – Physical and physiological evaluation. a. Medical history. b. Dialogue history. c. Physical examination. d. Drug-Drug interaction. – Basic injection technique. a. Position the patient.

		b. Position the operator. c. Hand positions for injections. d. Aspiration. – Anatomical considerations. • Techniques of maxillary anaesthesia. – Maxillary injection techniques. a. Supraperiosteal (infiltration). b. Periodontal ligament (intraalveolar). c. Intraosseous injection. d. Intraosseous injection. e. Posterior superior alveolar nerve block. f. Middle superior alveolar nerve block. g. Infraorbital nerve block. h. Maxillary nerve block. i. Greater palatine nerve block. j. Nasopalatine nerve block. – Teeth and buccal soft and hard tissues. – Palatal anaesthesia. – Maxillary nerve block. • Techniques of mandibular anaesthesia. – Inferior alveolar nerve block. – Buccal nerve block. – Mandibular nerve block. – Mental nerve block. – Incisive nerve block. • Effects of inflammation on local anaesthesia. • Complication of local anaesthesia. – Failure of local anaesthesia. – Local complications. – Systemic complications.
4.	Exodontia	• Introduction. • Definition.
	(1)Armamentarium for basic oral surgery	• Instruments to incise tissue. • Instruments for elevating mucoperiosteum. • Instruments for controlling haemorrhage. • Instruments to grasp tissue. • Instruments for removing bone: – Rongeur forceps. – Chisel and mallet. – Bone file. – Bur and handpiece. – Instruments to remove soft tissue from bony defects. • Instruments for suturing mucosa: – Needle holder. – Needle. – Suture material. – Scissors.

		• Instruments for retracting soft tissue. • Instruments to hold the mouth open. • Instruments for providing suction. • Instruments to transfer sterile instruments. • Instruments to hold towels and drapes position. • Instruments for irrigation. • Dental elevators: – Components. – Types. – Uses. – Principles of uses of elevators. • Extraction forceps: – Components. – Maxillary forceps. – Mandibular forceps. • Instruments tray systems.
	(2) Principles of uncomplicated (Forceps or intra-alveolar or closed) exodontia	• Pain and anxiety control: – Local anaesthesia. – Sedation. • Presurgical medical assessment. • Indications for removal of teeth. • Contraindications for removal of teeth. • Clinical evaluation of teeth for removal: – Access to tooth. – Mobility of tooth. – Condition of the crown. • 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. • Principles of forceps use. • Procedure for closed extraction. • Role of the opposite hand. • Role of assistant during extraction. • Specific techniques of removal of each tooth. – Maxillary teeth. – Mandibular teeth. – Modifications for extraction of primary teeth. • Postextraction care of the tooth socket.
	(3) Principles of complicated (Trans-alveolar, surgical or open) exodontia	• Principles of flap design, development and management. – Design parameters for soft tissue flaps. – Types of mucoperiosteal flaps. – Technique of developing a mucoperiosteal flap.

		– Principles of suturing. • Principles and techniques for surgical extraction: – Indications for surgical extraction. – Principles of uses of elevators. – Technique for open extraction of single rooted tooth. – Technique for surgical removal of multirooted teeth. – Removal of small root fragments and root rips. – Policy for leaving root fragments. • Multiple extractions.
	(4) Principles of management of impacted teeth	• Definition. • Epidemiology. • Aetiology. • Indications for removal of impacted teeth. • Contraindications for removal of impacted teeth. • Classification systems for mandibular impacted teeth: – Angulation. – Relationship to anterior border of ramus. – Relationship to occlusal plane. • Root morphology: – Size of follicular sac. – Density of surrounding bone. – Contact with mandibular second molar. – Relationship to inferior alveolar nerve. – Nature of overlying tissue. • Modification of classification systems for maxillary impacted teeth. • Factors that make impaction surgery less difficult. • Factors that make impaction surgery more difficult. • Diagnosis. • Surgical procedures: – Impacted mandibular third molar. – Impacted maxillary third molar. – Impacted maxillary canine. • Perioperative patient management.
	(5) Postoperative patient management	• Control of postoperative bleeding. • Ecchymosis. • Oedema. • Trismus. • Diet. • Oral hygiene. • Control postoperative pain and discomfort. • Control of infection. • Postoperative follow up visit.
	(6) Complication of exodontia and	• Prevention of complication. • Complication occurring during the operative

	prevention and management	procedure: – Soft tissue injuries. – Injuries to osseous structures. – Oroantral communications. – Fractures of the mandible. – Complications with the tooth being extracted. – Injuries to adjacent structures. • Complications occurring during the postoperative period: – Bleeding. – Delayed healing. – Infection. • Management of complications.
5.	Soft tissue and dentoalveolar injuries	• Management of dentoalveolar injuries: – History. – Clinical examination. – Radiographic examination. – Classification of traumatic injuries to the teeth and supporting structures: a. Crown craze or crack. b. Crown fracture. c. Crown-root fracture. d. Horizontal root fracture. e. Sensitivity (concussion). f. Mobility (subluxation or looseness). g. Tooth displacement. h. Avulsion. i. Alveolar process fracture. • Treatment of dentoalveolar injuries. • Soft tissue injuries: – Abrasion. – Contusion. – Laceration. • Surgical management of lacerations: – Cleansing of the wound. – Debridement of the wound. – Haemostasis in the wound. – Closure of the wound.
6.	Preprosthetic surgery	• Introduction. • Definition.
	(1)Basic Preprosthetic surgery	• Objectives of preprosthetic surgery. • Principles of patient evaluation and treatment: – Planning. – Evaluation of supporting bony tissue. – Evaluation of supporting soft tissue. – Treatment planning. • Recontouring of the alveolar ridges:

		– Simple alveoloplasty associated with removal of multiple teeth. – Intraseptal alveoloplasty. – Maxillary tuberosity reduction. – Buccal exostosis and excessive undercuts. – Lateral palatal exostosis. – Mylohyoid ridge reduction. – Genial tubercle reduction. • Tori removal: – Maxillary tori. – Mandibular tori. • Soft tissue abnormalities: – Maxillary tuberosity reduction (soft tissue). – Mandibular retromolar pad reduction. – Lateral palatal soft tissue excess. – Unsupported hypermobile tissue. – Inflammatory fibrous hyperplasia. – Inflammatory papillary hyperplasia of the palate. – Labial frenectomy. – Lingual frenectomy. • Immediate dentures. • Overdenture surgery.
	(2)Advanced	• Factors affecting bone resorption. • Goals of advanced preprosthetic surgery. • Patient evaluation: – Bone evaluation. – Soft tissue evaluation. – Treatment planning. • Mandibular augmentation: – Superior border augmentation. – Inferior border augmentation. – Pedicle or interpositional grafts. – Hydroxyapatite augmentation of the mandible. – Guided bone regeneration (osteopromotion). • Maxillary augmentation: – Onlay bone grafting. – Interpositional bone graft. – Maxillary hydroxyapatite augmentation. – Sinus lift. – Tuberoplasty. • Soft tissue surgery for ridge extension of the mandible: – Transpositional flap vestibuloplasty. – Vestibule and floor-of-mouth extension procedures. • Soft tissue surgery for maxillary ridge extension:

		– Submucosal vestibuloplasty. – Maxillary vestibuloplasty with tissue grafting. • Correction of abnormal ridge relationships: – Segmental alveolar surgery in the partially edentulous patient. – Correction of skeletal abnormalities in the totally edentulous patient.
7.	Principles of endodontic surgery	• Introduction. • Definition. • Drainage of an abscess. • Periapical surgery. – Indications. – Contraindications (or cautions). – Surgical procedure. a. Flap design. b. Anaesthesia. c. Incision and reflection. d. Periapical exposure. e. Curettage. f. Root-end resection. g. Root-end preparation and restoration. h. Radiographic verification. i. Flap replacement and suturing. j. Postoperative instructions. k. Suture removal and evaluation. • Corrective surgery: – Indications: a. Procedural errors. b. Resorptive perforations. – Contraindications. a. Anatomical considerations. b. Location of perforation. c. Accessibility. – Considerations. – Surgical procedure. • Healing. • Determine the aetiology of root canal treatment failure. • Surgical difficulties.
8.	Transdental Fixation	• Definition. • Indications. • Diagnosis. • Techniques. • Postoperative management
9.	Reimplantation of teeth	• Introduction, definition. • Indications. • Operation technique. • Splint, Post-operative management.

		• Complications. • Prognosis.
10.	Hemisection, trisection and root amputation	• Definitions. • Indications. • Contraindications. • Diagnosis. • Operative procedures and techniques.
11.	Transplantation of teeth	• Introduction. • Definition. • Indications. • Diagnosis. • Operative procedure.
12.	Cysts of the oral cavity	• Introduction. • Definition. • Classifications of the cysts. • Pathogenesis. • Diagnosis. • Clinical features. • Investigations. • Radiographic examination. • Aspiration biopsy. • Biopsy. • Cysts of the jaws: – Epithelial cysts of the jaws: a. Odontogenic: I. Developmental: 1) Primordial (kerato) cyst. 2) Gingival cyst of infants. 3) Gingival cyst of adults. 4) Lateral periodontal cyst. 5) Dentigerous cyst. 6) Eruption cyst. 7) Calcifying odontogenic cyst. II. Inflammatory cysts: 1) Radicular cyst. 2) Residual cyst. 3) Inflammatory collateral cyst. 4) Para-dental cyst. b. Non-odontogenic: I. Nasopalatine duct cyst. II. Incisve canal cyst. III. Median palatine cyst. IV. Median alveolar. V. Median mandibular. VI. Globulomaxillary cyst. VII. Naso-labial (naso-alveolar) cyst. – Nonepithelial cysts of the jaws: a. Simple bone cyst:

		I. Traumatic cyst. II. Haemorrhagic cyst. III. Solitary cyst. b. Aneurismal bone cyst. • Cysts associated with the maxillary antrum: – Benign mucosal cyst. – Surgical ciliated cyst. • Cysts of the soft tissues of the face, neck and mouth: – Dermoid & epidermoid cyst. – Lympho-epithelial cyst. – Thyroglossal duct cyst. – Anterio-median lingual cyst. – Naso-pharyngeal cyst. – Cystic hygroma. – Cysts of the salivary gland: a. Extravasations cyst. b. Retention cyst. c. Ranula. • Surgical management of cysts and cystlike lesions of the jaws: – Introduction. – Enucleation: a. Definition. b. Indications. c. Advantages and disadvantages. d. Technique. – Marsupialisation: a. Definition. b. Indications. c. Advantages and disadvantages. d. Technique. – Marsupialisation followed by Enucleation: a. Definition. b. Indications. c. Advantages and disadvantages. d. Technique. – Enucleation with curettage: a. Definition. b. Indications. c. Advantages and disadvantages. d. Technique.
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4. Clinical course for third and fourth year:

- Principles, practice of cross infection control

Students are required to learn and perform the following:

- Maintain an aseptic technique throughout all surgical procedures.
- Improve knowledge related to infection control & sterilization techniques.

- Principles, practice of history taking and patient examination
Students are required to learn and perform the following:
 - Obtain a comprehensive history (detailed dental history & related medical history).
 - Perform an appropriate physical examination.
 - Interpret and organize for further investigation/s.
- Principles, practice of local anaesthesia & its complication
Students are required to learn and perform the following:
 - Students are required to be competent at infiltration & block techniques of L.A.
- Principles, practice of dental extraction under L.A & its complication
Students are required to learn and perform the following:
 - To be competent at undertaking removal of all teeth & their roots; and whenever necessary steps of trans-alveolar extraction technique skilfully.
- Medical problems affecting oral surgery
Students are required to learn and perform the following:
 - Diagnosis of medical emergencies & emergency drugs used.
 - Carry out resuscitation (CPR), treat an anaphylactic reaction, upper respiratory tract obstruction, haemorrhage, inhalation or ingestion of foreign bodies & diabetic trauma.
 - Management of medically compromised patients.
- Principles, practice of minor surgical procedures under L.A
Students are required to learn and perform the following:
 - To master basic principles, know their limitations, indications of patient referral for secondary care.
- Principles, practice of diagnosis & management of emergency, maxillofacial pathology & trauma (before referral for secondary care)
Students are required to improve their knowledge regarding the following:
 - Management of acute infection.
 - Implants as treatment options (know when an implant is an option in replacing missing tooth).
 - Diagnosis of dento-facial anomalies treatment and orthognathic surgery.
 - Management of oral cancer.
 - Principles of assessment of maxillofacial trauma.

5. Teaching and learning methods:

- Lectures.
- Clinical sessions and chair side teaching.
- Tutorials, seminars and small group discussions.
- Seminars.
- Demonstrations and group discussions.
- Case presentation.
- The student will take the advantage of all audio-visual aids available both in the library such as:
 - Clinical photographs and slides.
 - Video-cassettes, CDs, DVDs.
 - Computer assisted learning programs and internet facility.
 - Books, atlases and newsletters.

6. Student assessment methods:

a) Assessment tools:

First Mid-Term examination (2 hours)	To assess basic knowledge, intellectual skills, general transferable skills and students' progress until the middle of the year.
Final-Oral examination (45 min – 1 hour)	To assess basic knowledge, intellectual skills and general transferable skills for the complete academic year (at the end of the Fourth year).
Final-Clinical examination	To assess professional and practical skills, intellectual skills and general transferable skills for the complete academic year (at the end of the Fourth year).
Final-Written examination (3 hours)	To assess basic knowledge, intellectual skills and general transferable skills for the complete academic year (at the end of the Fourth year).

b) Assessment schedule:

First Mid-Term examination	In the middle of the academic year for all students.
Final-Oral examination	This is held at the end of the Fourth year.
Final-Clinical examination	This is held at the end of the Fourth year.
Final-Written examination	This is held at the end of the Fourth year.

c) Weighting of assessment:

First Mid-Term examination	10%	20 marks
Final-Oral examination	At the end of the Fourth year.	
Final-Clinical examination	At the end of the Fourth year.	
Final-Written examination	At the end of the Fourth year.	

d) The minimum passing score is 120 marks (60%)

- Passing grades are as follow:

Excellent	85% - 100%
Very good	75% - 84,99%
Good	65% - 74,99%
Fair (pass)	60% - 64,99%
Weak	35% - 59,99%
Very weak	Less than 35%

7. List of reference:

- **Course notes:** department book:
- **Essential books (textbooks):**
 - Contemporary Oral and Maxillofacial Surgery; Peterson I.J & EA.
 - Text book of oral and maxillofacial surgery: Srinivasan B.
 - Killey & Kays outline of oral surgery – part- 1: Seward GR & etal.
 - Handbook of medical emergencies in the dental office, Malamed SF.
- **Recommended books:**
 - Impacted teeth; Alling John F & etal.
 - Principles of oral and maxillary surgery: Vol 1, 2 & 3 Peterson LJ & etal.
 - Extraction of teeth: Howe, GL.

- Minor Oral Surgery: Howe. GL.
- Essentials of safe dentistry for the medically compromised patients; Mc Carthy FM.
- **Periodicals, web sites, etc:**

8. Other Resources/Facilities required for teaching and learning to achieve the above ILOs (for example, Field trips):

- Faculty lecture Halls.
- Audiovisual aid (data shows, sound systems. overhead and slide projectors).
- Sufficient numbers of dental units.
- Dental instruments and equipments.
- Dental materials.
- Computers to encourage students to master communication and information technology skills.
- Digital camera for documentation of clinical cases.
- Appropriate teaching accommodation.
- Computer/Lap top.
- Black and white board (and markers).
- Materials and study models – required by students.
- Providing lecture notes, manuals and sheets.
- Faculty library.
- Electronic library.

9. We certify that all of the information required to deliver this course is contained in the above specification and will be implemented

Title	Signature
Head of Department	
Department of Study and Examination Faculty of Dentistry, University of Tripoli	
Dean of Faculty of Dentistry University of Tripoli	