

FACULTY OF DENTISTRY

Faculty Administration

Dean Prof. Essam Osman
Assistant Dean Prof. Roula Abiad
Executive Administrator Mr. Khaled Najjar

Academic Staff

Professors: Prof. Essam Osman, Prof. Hala Ragab, Prof. Roula Abiad, Prof. Nayer Abo Elsaad
Assistant Professors: Dr. Ahmad Tarabaih, Dr. Aly Osman, Dr. Ahmed Abyad

History

In 1995, Beirut Arab University (BAU) established its Faculty of Dentistry as the 9th faculty, ensuring that the training and education given to future dentists equips them with the skills needed for prevention, diagnosis and treatment of abnormalities related to teeth and associated oral tissues.

Organizational Structure

The Faculty of Dentistry is constituted of the following Departments and Divisions:

Biological & Diagnostic Sciences includes: Oral Biology, Oral Diagnosis & Radiology, Oral Medicine & Oral Pathology

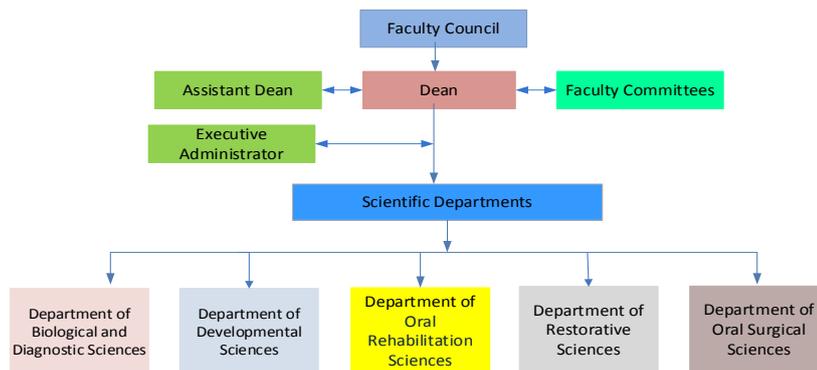
Developmental Sciences includes: Orthodontics, Pediatric Dentistry, Public Health & Behavioural Sciences

Oral Rehabilitation Sciences includes: Dental Biomaterials, Fixed Prosthodontics, Removable Prosthodontics

Oral Surgical Sciences includes: Oral & Maxillofacial Surgery, Periodontology, Implantology

Restorative Sciences includes: Dental Anatomy, Endodontics, Operative & Esthetic Dentistry

The organizational chart of the Faculty is as follows:



Vision

To be an internationally-recognized leading dental institution with an outstanding impact on oral health through excellence in education, patient-centered care, community-based research and public health services.

Mission

The Faculty of Dentistry is committed to provide its students with high quality dental education and advanced training through the integration of contemporary science-based knowledge and innovative technology into the delivery of patient care. In order to achieve the primary goal of improving the oral health of the diverse population, the Faculty will continue to respond effectively to changes in education, health care delivery and research to ensure a supply of committed professional graduates who are able to provide optimum oral health care service.

Objectives

- To prepare graduates with a strong foundation of evidence-based dental education, comprehensive clinical practice, cultural competency and values that satisfy the needs of the national, regional and international job-market through the continuous reform of curricula.
- To provide and promote the delivery of optimal patient-centered oral healthcare and community service with emphasis on prevention in a variety of settings to fulfill the needs of a diverse population.
- To contribute significantly to the advancement of high quality research.
- To act as a source of life-long learning and provide continual professional development.
- To strengthen academic cooperation and relations at the national and international levels.

Academic Program

- The Faculty of Dentistry offers a 10-semester full-time Bachelor Degree in Oral and Dental Surgery (B.D.S.). Each academic semester extends over a period of 15 weeks.
- The undergraduate program is structured to provide dental students with a comprehensive didactic dental education, as well as extensive clinical and laboratory training in all dental specialties and allied medical sciences.
- A Student fails in a course if he/she obtains a grade less than D.

Admission Requirements

To be accepted for an undergraduate degree, applicants must:

- Hold the official Lebanese Secondary School Certificate in a branch relevant to the chosen undergraduate field of specialization, or an official equivalent;
- Successfully pass an entrance exam to measure the level of proficiency in ***English Language, an aptitude Test (thinking skills, scientific knowledge: Biology, Physics, Chemistry), a practical exam, as well as attend a personal interview.***

Intended Learning Outcomes (ILOs):

a. Knowledge and Understanding:

On successful completion of the program, graduates should be able to:

- a1- Recognize the importance of biomedical sciences in relation to dentistry.
- a2- Recognize the properties, behaviour, environmental issues, limitations, related body response of the different dental materials that will help in their selection.
- a3- Recognize mechanism of cross infection and infection control and prevention to maintain safe working environment.
- a4- Identify and distinguish the different dental terms, instruments and materials used.
- a5- Describe the form and function of teeth, associated structures, consequences of tooth loss and relate them to state of health and disease.
- a6- Distinguish human diseases and pathogenic processes, including genetic disorders, and the manifestation of those diseases which are particularly relevant to the practice of dentistry.
- a7- Recognize basis of practice management, oral health promotion, prevention.
- a8- Distinguish ethical, medico-legal aspects and basis of practice management through planning, organizing and team leading aiming to a safe working environment.
- a9- Identify concepts and sequelae of normal and abnormal occlusion.
- a10- Recognize systemic disorders with oral manifestations which have interrelationship to oral health.
- a11- Describe diseases and disorders of the oral cavity and associated structures, their causes and sequelae together with the principles of their prevention, diagnosis and management.

- a12- Describe normal and abnormal craniofacial development, oral and oral related disorders, tooth development, eruption, occlusal development from birth to adolescence.
- a13- Recognize prevention and common signs and symptoms of orofacial pain, anxiety and apprehension and management of medical emergencies. Motor and sensory innervation of mouth and jaws.
- a14- Realize the importance of professional behaviour and proper communication with patient and oral health care team.
- a15- Distinguish different component of research and realize the importance of evidence based approach in patient management.

b. Intellectual Skills:

A graduating dentist should be able to:

- b1- Select the proper material for various situations, and analyze the causes of failure of dental materials, develop maintenance program, diagnose, explain and manage deterioration and failure.
- b2- Set differential diagnosis of similar pathological conditions based on medical evidences, clinical and radiographic findings.
- b3- Assess and evaluate the effects of medications interactions during dental management and manage dental and medical emergencies which may occur in dental practice and perform basic life support measures.
- b4- Integrate bio-medical clinical and surgical knowledge and therapies relevant to oral health care.
- b5- Analyze, interpret, and integrate collected diagnostic data to solve clinical problems based on current evidence.
- b6- Design appropriate treatment plan for different dental problems, select the suitable treatment option, perform the technical steps satisfactorily based on the investigation outcomes and priorities of potential patient's clinical problems and evaluate treatment outcomes.

c. Professional and Practical Skills:

A graduating dentist should be able to:

- c1- Demonstrate how to perform different types of tooth preparation, direct and indirect restorations and manage hard tissue loss including caries as well as defective teeth to restore form and esthetics together with management of pulpal and periradicular diseases and disorders.
- c2- Select and manipulate the proper material and describe to the patient the possible risk and benefits.
- c3- Identify and manage problem in the mixed dentition in which interceptive treatment is indicated including space management.
- c4- Prescribe and monitor the effects of appropriate pharmaceutical agents taking into consideration drug and patient factors.
- c5- Integrate basic biomedical, behavioural and dental sciences with vital signs, symptoms and physical findings of the disease for a better delivery of dental care.
- c6- Detect abnormal and pathological conditions, as well as etiological and/or risk factors that may contribute to disease process.
- c7- Manage dental emergencies and promptly refer those situations that are beyond the scope of the general dentist to a specialist and carry out basic life support procedures.
- c8- Apply health promotion principles and prevention in a comprehensive approach based on risk assessment with proper dietary advice for better serving the community.
- c9- Perform simple dento-alveolar procedures and recognize when and how to refer patient with medical and dental problems to a specialist and administer local anesthesia.
- c10- Manage patients with functional disorders involving the occlusion and temporomandibular joint and orofacial pain.
- c11- Recognize abnormalities of facial growth and development and realize the appropriate time of intervention in potential orthodontic cases to refer for specialist advice or treatment.
- c12- Manage patients with periodontal diseases and conditions.
- c13- Manage rehabilitation of partially and completely edentulous patients.
- c14- Appraise indications, contraindications, limitations and risks as well as benefits of conscious sedation and general anesthesia.
- c15- Manage the oral health of children as well as adolescents and treat them with consideration for their expected growth, development, psychology and handicapping condition.
- c16- Apply current cross-infection control and ionizing radiation guidelines to work in a safe environment with no occupational hazards.

d. General and Transferable Skills:

The graduate should have the ability to:

- d1- Communicate effectively at all levels in both the scientific and professional contexts using verbal, non-verbal and written means taking into consideration human rights.
- d2- Utilize information technologies in a scientific approach to enrich and diversify professional experience.
- d3- Provide high quality comprehensive patient care with other health care providers, identify his role and respect others'. Moreover he/she should maintain confidentiality plan, obtain informed consent and focus on patient's interest and expectations.

- d4- Self-evaluate professional abilities, performance and progress and evaluate the validity of claims related to products or techniques.
- d5- Acquire moral and ethical responsibilities of care toward the community and patients.
- d6- Recognize the basic concepts of quality assurance and practice management.
- d7- Work effectively and professionally as member of a health care team and learn who to manage time, set priorities manage occupational stress and display appropriate behaviour towards all members of the team and recognize their limitation.
- d8- Access different sources to retrieve information relevant to oral health care. Acquire, analyze, process and communicate information in a scientific manner to solve problems and to guide clinical decision-making based on latest evidence.
- d9- Recognize the value of continuous lifelong learning, self-assessment, problem solving and critical thinking in maintaining competency.

Career Opportunities

- Private dental practice either as a solo practitioner or as a partner in a group.
- Governmental, private and military hospitals as well as other health care institutions may employ dentists. These offer dentists the opportunity to care for more challenging patients in an interdisciplinary setting.
- Working in health centers located in rural and underserved areas fulfilling the basic humanitarian value of dentistry as a science.
- Dental school staff members have the opportunity to practice dentistry, in addition to researching, teaching and mentoring the next generation of dentists.
- Working as representatives in companies for dental equipment and materials.

Graduation Requirements

To receive a Bachelor Degree in Oral and Dental Surgery, a student must satisfactorily complete 180 credit hours with an overall minimum grade point average (GPA) of 2.0 + IC3 (International Computer Driving License). The following table summarizes the number of credits required for Bachelor granting program at the Faculty:

Program Requirements	Credits
I. University Courses*	
Mandatory	5
Elective	7
II. Faculty Core Courses	
Basic Dental	19
Biomedical Sciences	23
Clinical Dental	77
Preclinical Dental	44
III. Faculty Elective Courses	5
Total	180

* A total of 12 credits is required as General University Requirements; 5 credits are selected from the University Mandatory courses list including: ARAB 001 (2Cr.), ENGL 001 (2Cr.), BLAW 001 (1Cr.) and another 7 credits are selected from the University Elective courses list.

Major Core Courses

Courses			Cr.	Prerequisites
ANAT	221	Gross Anatomy	2	NONE
BCHM	221	Biochemistry	2	NONE
BIOL	221	Molecular Genetics	1	NONE
BIOM	221	Principles of Dental Biomaterials	1	NONE
DANT	221	Dental Anatomy	2	NONE
PHRM	221	Medical Botany	2	NONE
PHYL	221	Physiology	2	NONE
ANAT	222	Head & Neck Anatomy	3	ANAT 221
DANT	222	Dental Anatomy & Occlusion	3	DANT 221
GHST	222	General Histology	1	NONE
MICR	222	Microbiology & Immunology	2	BCHM 221 or BIOL 221
OPER	222	Preclinical Operative Dentistry I	2	DANT 221 & BIOM 224*
BIOM	224	Applied Dental Biomaterials I	3	BIOM 221 & OPER 222*
FPRO	223	Preclinical Fixed Prosthodontics I	2	OPER 222
MICR	223	Applied Microbiology & Infection Control	1	MICR 222
OCLS	223	Fundamentals of Occlusion	1	DANT 222
OPER	223	Preclinical Operative Dentistry II	2	OPER 222
ORBL	223	Oral Biology I	3	GHST 222
PATH	223	Pathology	2	ANAT 221
PHBS	223	Behavioural Sciences	1	NONE
RPRO	223	Preclinical Removable Prosthodontics I	2	DANT 222 & BIOM 225*
BIOM	225	Applied Dental Biomaterials II	3	BIOM 221 & RPRO223*
FPRO	224	Preclinical Fixed Prosthodontics II	2	FPRO 223
OPER	224	Preclinical Operative Dentistry III	2	OPER 223
OPHTH	224	Oral Pathology I	2	ORBL 223
ORAD	224	Oral Radiology	1	ANAT 222
ORBL	224	Oral Biology II	2	ORBL 223
PHBS	224	Research & Evidence Based Dentistry	2	PHBS 226*
PHRM	224	Pharmacology	2	PHRM 221 & PHYL 221
RPRO	224	Preclinical Removable Prosthodontics II	2	RPRO 223
PHBS	226	Preventive & Public Health Dentistry	2	PHBS 224 *
FPRO	321	Preclinical Fixed Prosthodontics III	2	FPRO 224
GMED	321	General Medicine	2	PATH 223
ODTP	321	Oral Diagnosis, Radiology & Treatment Planning	3	ORAD 224 & PERI 323*
OPER	321	Preclinical Operative Dentistry IV	2	OPER 224
PHBS	321	Practice Management	1	PHBS 223
RPRO	321	Preclinical Removable Prosthodontics III	2	RPRO 224
ENDO	323	Preclinical Endodontics I	3	ORAD 224 & OPER 224 & MICR 223
OSRG	323	Anesthesia & Introduction to Oral Surgery	2	PHRM 224
PERI	323	Preventive Periodontology	1	MICR 223 & ODTP321*
FPRO	322	Preclinical Fixed Prosthodontics IV	2	FPRO 321
GSRG	322	General Surgery, ENT & Ophthalmology	2	PATH 223
OPER	322	Operative Dentistry I	2	OPER 321

OPTH	322	Oral Pathology II	2	OPTH 224 & OMED324*
RPRO	322	Preclinical Removable Prosthodontics IV	2	RPRO 321
ENDO	324	Preclinical Endodontics II	3	ENDO 323
OMED	324	Oral Medicine	2	ORBL 224 & OPTH322*
PERI	324	Periodontology I	2	PERI 323
FPRO	421	Fixed Prosthodontics I	3	FPRO 322
OPER	421	Operative Dentistry II	2	OPER 322
OSRG	421	Oral Surgery I	3	OSRG 323
PEDI	421	Preventive & Pediatric Dentistry I	2	PHBS 226
RPRO	421	Removable Prosthodontics I	2	RPRO 322
ENDO	423	Endodontics I	2	ENDO 324
ORTD	423	Orthodontics I	2	OCLS 223
PERI	423	Periodontology II	1	PERI 324
FPRO	422	Fixed Prosthodontics II	3	FPRO 421
OPER	422	Operative Dentistry III	3	OPER 421
OSRG	422	Oral Surgery II	3	OSRG 421
RPRO	422	Removable Prosthodontics II	2	RPRO 421
ENDO	424	Endodontics II	3	ENDO 423
ORTD	424	Orthodontics II	2	ORTD 423
PEDI	424	Preventive & Pediatric Dentistry II	1	PEDI 421
FPRO	521	Fixed Prosthodontics III	3	FPRO 422
OPER	521	Operative Dentistry IV	2	OPER 422
OSRG	521	Oral Surgery & Implantology	2	OSRG 422
PEDI	521	Pediatric Dentistry I	2	PEDI 424
PERI	521	Periodontology III	1	PERI 423
PHBS	521	Ethics & Professionalism in Dentistry	1	PHBS 321
RPRO	521	Removable Prosthodontics III	2	RPRO 422
ENDO	523	Endodontics III	3	ENDO 424
CLNC	522	Comprehensive Clinical Care	2	PROS524*
PEDI	522	Pediatric Dentistry II	3	PEDI 521
PHBS	522	Interprofessional Education for Health Care	1	PHBS 521
OSRG	524	Oral & Maxillofacial Surgery	2	OSRG 521
PROS	524	Prosthodontics	5	FPRO 521 & RPRO 521
REST	524	Restorative Dentistry	5	ENDO 523 & OPER 521

*: Co-requisite

Faculty Elective Courses

DENT	501	Rotary Endodontics	2	ENDO 422
DENT	502	Digital Dentistry (CAD CAM)	2	NONE
DENT	503	Oral Implantology	2	NONE
DENT	504	Laser Dentistry	1	NONE
DENT	505	Community Service	1	NONE
DENT	506	Advanced Radiology (CBCT)	1	NONE
DENT	507	Forensic Dentistry	1	NONE
DENT	508	Medical Emergencies	1	NONE
DENT	509	Dental Photography	1	NONE
DENT	510	Orofacial Pain & Pain Control	1	NONE
DENT	511	Prevention and Risk Assessment	1	NONE
DENT	512	Orthodontic Clinical Training	1	ORTD 422
DENT	513	Restorative Dentistry Clinics	1	OPER 421 & ENDO 421
DENT	514	Prosthodontics Clinics	1	RPRO 421 & FPRO 421
DENT	515	Mentored Research	1	NONE
DENT	516	Research Project	2	DENT 515
DENT	517	Digital Dentistry	1	NONE

Major Core Courses Description

ANAT 221 - GROSS ANATOMY (2Cr.:2Lec., 1Pract.)

Provides students with knowledge about the normal anatomical structures of the different body systems and organs and their clinical applications. The course also covers the development of the pharyngeal arches, practical study of the human skeleton joints, heart and its big blood vessels, lungs and their pleurae, abdominal and pelvic viscera and brain.

Pre-req.: NONE

BCHM 221 - BIOCHEMISTRY (2Cr.:2Lec., 1Pract.)

The present course provides in-depth exposure to the principles of biochemistry most important to an understanding of health and disease. Major topics include an introduction to the chemistry of the major classes of biomolecules, including proteins, carbohydrates, lipids, enzymes and nucleic acids. An in-depth review of cell metabolism and how it is regulated at the level of the cell and the whole organism will follow the chemistry of biomolecules. Finally, several metabolic disorders will be explained to contrast normal and perturbed human biochemistry as well as demonstrate the clinical implications of human biochemistry. Therefore, this course is designed for students who are more likely to pursue the medical professions.

Pre-req.: NONE

BIOL 221 - MOLECULAR GENETICS (1Cr.:1Lec.)

The course is an introduction to molecular genetics. It covers the major topics; DNA structure, Eukaryotic gene organization, DNA replication, Transcription, processing (splicing and maturation) and Translation. Furthermore, the course will review the concept and the applications of three molecular genetic techniques in clinical diagnosis, such as nucleic acid hybridization, polymerase chain reaction and DNA sequencing. Finally, an explanation of gene therapy approach through recombinant DNA technology will be discussed.

Pre-req.: NONE

BIOM 221 - PRINCIPLES OF DENTAL BIOMATERIALS (1Cr.:1Lec.)

Defines and recites an overview for the basic science of physical, chemical and mechanical properties of dental materials used in all branches of the dental field (metals, polymers, ceramics and composites). Their introductory clinical applications are also presented.

Pre-req.: NONE

DANT 221 - DENTAL ANATOMY (2Cr.:1Lec., 3Pract.)

The course aims to provide intensive knowledge about tooth nomenclature and numbering systems of permanent and deciduous teeth. It also deals with the anatomical characteristics and landmarks of permanent anterior and premolar teeth. The course comprises practical sessions; student is provided the opportunity to develop his/her manual skills by carving in wax anterior teeth and premolars.

Pre-req.: NONE

PHRM 221 - MEDICAL BOTANY (2Cr.:2Lec., 1Pract.)

The course aims to provide the students with thorough information and practical skills about the classification, identification (macro- and microscopically) of medicinal plants belonging to different medicinal families, focusing on those applied in dental care preparations and clinical dental practice. It aims also to promote the skills, knowledge, attitudes and behaviours that facilitate effective interprofessional education (IPE) collaborative practice between health care providers. Through interactive learning students will discover ways in which they can work together to optimize patient's care, respecting each other's roles and responsibilities. The course employs a range of interactive methods and technologies. The content is oriented towards quality in health care, problem solving and other approaches that support dental care in different practice settings.

Pre-req.: NONE

PHYL 221 - PHYSIOLOGY (2Cr.:2Lec.)

This course provides a basic understanding of the functions and regulation of the human body organs. It develops an awareness and sense of responsibility regarding the functions of the human body organs and their role in maintaining homeostasis. The course explores and manipulates models, diagrams and other creative representations of the human body systems which include the circulatory, muscular, nervous, cardiovascular, renal and endocrine systems.

Pre-req.: NONE

ANAT 222 - HEAD AND NECK ANATOMY (3Cr.:2Lec., 2Pract.)

Provides a comprehensive detailed study to the head and neck including: Scalp, face, cranial cavity, orbit, parotid, temporal, infra-temporal, TMJ, pterygo-palatine fossa, submandibular region, mouth cavity, palate, tongue, nasal cavity, para-nasal sinuses, eyeball, ear and facial nerve and development of face, palate, tongue, salivary, pituitary and thyroid glands as well as nose. In addition, it includes cervical vertebrae, posterior triangle, anterior triangle, thyroid gland, jugular, carotid, subclavian vessels, last 4 cranial nerves, cervical plexus, sympathetic trunk, cervical fascia, facial spaces, neck lymph nodes, pharynx and larynx.

Pre-req.: ANAT 221

DANT 222 - DENTAL ANATOMY AND OCCLUSION (3Cr.:2Lec., 3Pract.)

The course aims to familiarize students with the general anatomical characteristics of the human oral dentition. Emphasis is placed on the prevention of periodontal disease and dental caries based on external crown form and function of occluding tooth surfaces. The course also provides understanding of the basic principles of occlusion. The course comprises practical sessions; student is provided the opportunity to develop his/her manual skills by carving in wax maxillary and mandibular molars.

Pre-req.: DANT 221

GHST 222 - GENERAL HISTOLOGY (1Cr.:1Lec., 1Pract.)

The course aims to provide the students with knowledge about the normal histological structure of the different body tissues and organs necessary for understanding the pathological changes that might occur in case of disease.

Pre-req.: NONE

MICR 222 - MICROBIOLOGY AND IMMUNOLOGY (2Cr.:2Lec., 1Pract.)

The course focuses on explaining the structure of different microorganisms in relation to their environmental and nutritional requirements. The course aims at rendering the students familiar with different laboratory techniques for isolation and identification of pathogenic viruses, bacteria and fungi. This would create a chance for pharmacy and dental students to work together on isolation and identification of oral microbiota and other infectious agents from different prospective to optimize patient's care, respecting each other's role and responsibilities. It aims also to promote the skills, knowledge, attitudes and behaviours that facilitate effective interprofessional education (IPE) collaborative practice between health care providers. Emphasis will be placed on learning the complex nature and functioning of human immune system, host-parasite relationship in addition to different types of hypersensitivity reactions and autoimmune diseases.

Pre-req.: BCHM 221 or BIOL 221

OPER 222 - PRECLINICAL OPERATIVE DENTISTRY I (2Cr.:1Lec., 3Pract.)

The course provides students with the basic knowledge and skills necessary for adequate performance of intra-coronal cavity preparation of posterior dentition. Students are introduced to biological, mechanical and esthetic aspects of cavity preparation. Students are expected to apply correct nomenclature to caries classification and identify the name and uses of the restorative instruments and equipment. Principles of cavity preparation for simple, compound and complex amalgam restoration will be elaborated. Students will be trained to carry out conservative class I cavity preparation and perform amalgam restoration in upper and lower posterior typodont teeth in clinical simulation environment. Students are also expected to do self-assessment to their practical skills according to set criteria. Correct posture and basic standards of infection control are followed during laboratory sessions.

Pre-req.: DANT 221 Co-req.: BIOM 224

BIOM 224 - APPLIED DENTAL BIOMATERIALS I (3Cr.:2Lec., 2Pract.)

Provides the students with theoretical and practical information regarding the properties and manipulation of restorative dental materials as regards their presentation modes, composition, manipulation, properties and limitations. In addition to working sessions for demonstration and practicing optimal manipulation of the studied materials.

Pre-req.: BIOM 221 Co-req.: OPER 222

FPRO 223 - PRECLINICAL FIXED PROSTHODONTICS I (2Cr.:1Lec., 2.5Pract.)

Introduces and orients students to fixed prosthodontic science, terminology and classifications, instruments used in fixed prosthodontics, principles of tooth preparation, full veneer metal crown and all ceramic crown preparations. Students will perform tooth preparation for full veneer metal crown on typodont molars. They will also prepare central incisors for all ceramic crowns.

Pre-req.: OPER 222

MICR 223 - APPLIED MICROBIOLOGY AND INFECTION CONTROL (1Cr.:1Lec., 1Pract.)

Dentists are exposed to a wide variety of potentially infectious microorganisms in their clinical environment. The course aims to give the students the knowledge and understanding about the best protocols and procedures necessary for working safely. The course aims also at rendering the students familiar with the most common oral microbiota and the most appropriate methods for sterilizing dental clinic equipment. Emphasis is focused on applying the standard guidelines of preventive measures to inhibit cross infection for the best practice in dental clinic. Dental students are subjected to the experience of sample collection by medical lab students to emphasize IPE experience.

Pre-req.: MICR 222

OCLS 223 - FUNDAMENTALS OF OCCLUSION (1Cr.:1Lec.)

This course covers the definitions of basic terms of occlusion, muscles of mastication and mandibular movements, laws of articulation, anterior and posterior occlusal determinants as well as requirements of ideal occlusion are also described. Anatomy and disorders of TMJ, clinical occlusal analysis, surface tooth loss and its implications in addition to static and dynamic occlusion, classification and management of oral and facial pain will be discussed in details.

Pre-req.: DANT 222

OPER 223 - PRECLINICAL OPERATIVE DENTISTRY II (2Cr.:1Lec., 2.5Pract.)

The course describes the biological, epidemiological, clinical aspects of dental caries, caries assessment and prevention. The course will also endorse abilities to solve problems relevant to restoration of carious lesions including occlusion, contact and contours. Isolation and moisture control techniques will be clarified as well as cavity preparation of anterior teeth. Students will be introduced to concepts of adhesion and bonding and will be able to describe the composition types and properties of composite resins. Students are expected to improve their skills in intra-coronal preparation and restoration of posterior teeth using amalgam. They will also perform different conservative preparation designs on anterior teeth and practice rubber dam application.

Pre-req.: OPER 222

ORBL 223 - ORAL BIOLOGY I (3Cr.:3Lec., 3Pract.)

The scope of this course includes a range of basic and applied sciences that underpin the practice of dentistry. These subjects include: molecular and cellular regulation of tooth development and its supporting tissues, basic chemistry, crystallography and ultra structure of the enamel, dentin, and cementum. The course also familiarizes students with the general composition and main structural features of pulp and periodontal ligament. These subjects will be integrated with the relevant disease processes, for example, dental caries, oral hygiene and fluoride; dental restorations, dentin adhesion, and dentin hypersensitivity. The course also helps the students to develop a spirit of inquiry that leads them to seek better ways to promote and preserve oral and general health.

Pre-req.: GHST 222

PATH 223 - PATHOLOGY (2Cr.:2Lec.)

Introduces students to the fundamental basis of etiology, pathogenesis with emphasis on disease prevention, compensation of the damaged functions and recovery. Knowledge of these mechanisms is needed for elaboration of principles and methods of therapy and prophylaxis. Also it provides the students with basic understanding of the mechanisms of development and outcomes of the main systems' diseases as bridge between basic theoretical disciplines and clinical practice.

Pre-req.: ANAT 221

PHBS 223 - BEHAVIOURAL SCIENCES (1Cr.:1Lec.)

Behavioural Science is the study of human behaviour in terms of its psychological, social and communicative aspects. The course introduces a number of topics that relate human behaviour to dentistry, such as oral health and quality of life, stress and inflammation, cognitive and emotional determinants of dental pain, dental fear and anxiety, managing patient anxiety, techniques of pain-reduction, psycho-social factors of oral health problems, psycho-social reactions and oral health disorders, the social context of dental care, enabling contact between the patient and the dental staff by using effective communication skills, benefits of communication skills and their components, using communication skills when treatment complications arise, using communication skills with other members of the health team, etc. While developing students' theoretical knowledge and

understanding of these topics, the course also provides case studies to enable students to transfer and apply the acquired knowledge in real-life situations later on.

Pre-req.: NONE

RPRO 223 - PRECLINICAL REMOVABLE PROSTHODONTICS I (2Cr.:1Lec., 2Pract.)

The course presents introduction and history of removable prosthodontics. It provides the students with the information about the anatomy of the supporting structures and steps of complete denture construction. Handling and pouring impressions, temporary and permanent denture bases, recording maxillo-mandibular relations, mandibular movements considerations and significance are also demonstrated.

Pre-req.: DANT 222 Co-req.: BIOM 225

BIOM 225 - APPLIED DENTAL BIOMATERIALS II (3Cr.:2Lec., 2Pract.)

Provides the students with theoretical and practical information about composition, properties and manipulation of auxiliary laboratory and prosthetic dental materials. In addition, the student demonstrates and practices the manipulation of these materials in the practical sessions.

Pre-req.: BIOM 221 Co-req.: RPRO 223

FPRO 224 - PRECLINICAL FIXED PROSTHODONTICS II (2Cr.:1Lec., 2Pract.)

Designed to introduce students to know metal ceramic crown preparation and design along with the partial coverage restoration, working casts and dies fabrication, types and materials, dental waxes types and pattern fabrication, spruing function and techniques. Also investing materials and techniques, alloys for casting and casting defects.

Pre-req.: FPRO 223

OPER 224 - PRECLINICAL OPERATIVE DENTISTRY III (2Cr.:1Lec., 3Pract.)

The course provides details on properties and uses of different types of liners and base materials with emphasis on glass-ionomers and materials used for pulp protection. The course also highlights the biological aspect of restorative dentistry and endorses student's abilities to solve problems relevant to root caries and non-cariou lesions. Conservative cavity preparation for posterior composite resin is featured and practiced. Students will be able to practice successful bonding techniques, matricing, multi-chromatic layering for anterior restoration, finishing and polishing procedures.

Pre-req.: OPER 223

OPTH 224 - ORAL PATHOLOGY I (2Cr.:2Lec., 1Pract.)

This course aims to provide the students with basic knowledge about different oral diseases, such as dental caries. The students will be introduced to different types of oral and para-oral cysts, common types of odontogenic tumor and bone diseases. The course combines lectures with case presentations and microscopical images for different oral diseases.

Pre-req.: ORBL 223

ORAD 224 - ORAL RADIOLOGY (1Cr.:1Lec., 1Pract.)

The course aims to provide students with the specialist knowledge necessary for practicing different intraoral radiographic techniques and processing. Implement, perform and manage effective decontamination and infection control procedures according to guidelines in dental x-ray room. It also covers basic principles of radiation biology, safety and protection with analysis of unsatisfactory radiographs. In addition, interpreting intraoral and panoramic dental x-ray films with identifying normal anatomic landmarks of maxilla and mandible, periodontal diseases and caries.

Pre-req.: ANAT 222

ORBL 224 - ORAL BIOLOGY II (2Cr.:2Lec., 1Pract.)

This course focuses on the latest scientific developments related to oral biology and health, covering basic science in a clinical context. The course covers the oral mucosa and its relationship to the oral mineralized tissues, composition and main structural features of bone. This course also deals with the process of shedding and eruption, salivary glands, saliva biochemistry, as well as temporomandibular joint and maxillary sinus. These subjects will be integrated with the relevant disease processes, for example, histological changes in bone that result from tooth movements, and the potential diverse changes resulting from orthodontic tooth movement and cranio-mandibular joint dysfunction. Finally, the course teaches the students how to choose and study significant scientific problems using modern scientific approaches.

Pre-req.: ORBL 223

PHBS 224 - RESEARCH AND EVIDENCE BASED DENTISTRY (2Cr.:2Lec.)

The course introduces the concept and techniques of biostatistics used in dental research. It also presents an overview of the research methodology and basics of statistical methods in analysis and interpretation of oral health research. The course emphasis on understanding of the importance of sampling, collection, describing and interpreting of data. Examples from current basic science research, survey research, and clinical will be presented and discussed. The course also discusses the structure of scientific writing for a proposal of a research study and its different sections.

Finally, it introduces students to the principles of Evidence Based Dentistry, focusing on the first three steps (Ask, Acquire and Appraise). The course is a mixture of lectures where instructor(s) explain the principles and discussion where students receive feedback on exercises to formulate PICO questions, search for primary/ secondary evidence and appraise observational

studies and clinical trials. Students in small groups analyze scientific literature and learn about general patterns of clinical judgment, clinical thinking, decision making, and application of scientific evidence into every day practice.

Co-req.: PHBS 226

PHRM 224 - PHARMACOLOGY (2Cr.:2Lec.)

The broad goal of the course is to inculcate rational and scientific basis of therapeutics keeping in view the dental profession. In this sense, the course aims to introduce the predoctoral dental students to basic pharmacology, whilst building up skills and analytical apprehension of drug mechanisms, pharmacological actions, adverse effects and major drug interactions relevant to their field of study.

It puts more emphasis on the pharmacotherapy of dental conditions which they may face on the dental chair. In addition, the course addresses the essential elements as well as the legislative principles of prescription writing of the commonly used drugs in the dental field, including controlled drugs.

Pre-req.: PHYL 221 and PHRM 221

RPRO 224 - PRECLINICAL REMOVABLE PROSTHODONTICS II (2Cr.:1Lec., 2Pract.)

The course provides information about articulators, functions, advantages, requirements and classification. Value and techniques for mounting casts are explained. Artificial teeth selection, arrangement of artificial teeth are also demonstrated. Complete denture occlusion, waxing-up and festooning complete dentures, processing waxed-up dentures and processing errors are discussed. Posterior palatal seal, relief, denture repair are presented. Retention and stability of complete denture are also covered.

Pre-req.: RPRO 223

PHBS 226 - PREVENTIVE AND PUBLIC HEALTH DENTISTRY (2Cr.:2Lec.)

The course aims to enable the students to understand the basic concepts and methods of dental health education, including principles of motivation and communication as well as the basic concepts and methods of prevention of dental diseases. The student will also recognize the steps of proper planning, designing and implementation of a dental health educational program, and the importance of pilot studies timing, continuous evaluation and follow up. The students will understand the importance of conducting surveys in establishing data base and how to conduct them. The course also covers the basic epidemiologic aspects of dental caries and periodontal diseases including epidemiology, indices used to measure the condition and the multifactorial aspect of the disease with the prediction of risk factors in addition to the methods used to prevent them including health education, plaque control (mechanical and chemical), fluoride and pit and fissure sealant. The course also highlighted the importance of nutrition, diet history analysis and dietary recommendations. Moreover, the course introduce the student to problem based learning (PBL) and team based learning (TBL).

Co-req.: PHBS 224

FPRO 321 PRECLINICAL FIXED PROSTHODONTICS III (2Cr.: 1Lec., 2 Pract.)

The course aims to introduce to the student different types of post used in treatment of endodontically treated teeth, different pontics design, complete and partial coverage retainers and different types of connectors used in fixed prosthodontics. Also, introducing the methods of clinical diagnosis.

Pre-req.: FPRO 224

GMED 321 - GENERAL MEDICINE (2Cr.:2Lec., 1Pract.)

The course aims to provide the student with adequate knowledge in understanding the pathophysiology of common medical diseases related to dentistry. Recognizing their signs and symptoms, selecting the proper laboratory investigations suitable for each case and different treatment modalities of these diseases. Also to deal properly with the medical emergencies that could happen in dental office in addition to basic life support procedures.

Pre-req.: PATH 223

ODTP 321 - ORAL DIAGNOSIS, RADIOLOGY AND TREATMENT PLANNING (3Cr.:2Lec., 2Pract.)

The course provides the student with basic knowledge and skills that are involved in the diagnostic process and treatment planning. The course allows students to effectively communicate with patients and establish sound patient dentist relationship, undertake an appropriate systematic intra- and extra-oral clinical examination. The course covers various topics on the interviewing process, clinical examination methods and relevant aspects of the diagnostic tools employed in formulating an appropriate treatment plan. Also, recognizing the methods of prevention and management of medical and dental emergencies that could

happen in dental office. In addition, it covers latest technologies used for digital imaging as Cone-Beam Computed Tomography (CBCT) and its application in various dental specialties and maxillofacial problems. Students are expected to complete their patient's needs in a safe environment and apply basic standards of infection control.

Pre-req.: ORAD 224; Co-req.: PERI 323

OPER 321 - PRECLINICAL OPERATIVE DENTISTRY IV (2Cr.:1Lec., 3Pract.)

The course provides in-depth knowledge on minimal invasive dentistry. Students will be able to identify different methods of early caries detection and select appropriate treatment model for carious lesions according to the degree of involvement. Students will be able to describe the composition, the physical, chemical and biological properties and principles of preparation designs for gold as well as indirect esthetic restoration.

Students will be trained on different restorative techniques for direct bonding as bulk-fill and incremental layering for posterior composite resins restoration. Inlay/onlay preparation will also be practiced. By the end of this course, students will be ready to apply the knowledge and skills obtained in pre-clinical courses in their clinical practice.

Pre-req.: OPER 224

PHBS 321 - PRACTICE MANAGEMENT (1Cr.:1Lec.)

The course aims at introducing some basic management techniques in a dental practice related to starting and running an office. Topics include an overview on the health system in Lebanon and financing modalities of the dental care, the possible financial remuneration systems for the dentist, key points for starting a new practice and designing a dental office, describing the key role of the dental assistant and the management of patients' records. Principles of dental ergonomics, four-handed dentistry and importance of infection control are reviewed. Finally, patient's rights and dentist's duties are introduced.

Pre-req.: PHBS 223

RPRO 321 - PRECLINICAL REMOVABLE PROSTHODONTICS III (2Cr.:1Lec., 2Pract.)

The course provides instructions for the fabrication of removable partial denture prostheses. It starts with the introduction, scope, terminology, objectives and indications. It also discusses the classification of partially edentulous arches, Kennedy's classification and Applegate's rules. Objectives, principles and uses of surveyor are also described. The course is also designed to present various components of RPD which include denture base, occlusal rests and similar components, intracoronal and extracoronal direct retainer as well as basic principles of clasp design.

Pre-req.: RPRO 224

ENDO 323 - PRECLINICAL ENDODONTICS I (2Cr.:1Lec., 2.5Pract.)

This course orients the students to endodontic science, root canal anatomy and morphology, principles of access cavity preparation. Instruments: descriptions and uses, working length determination and basics of single root canal preparation.

Pre-req.: ORAD 223 and OPER 223

OSRG 323 - ANESTHESIA & INTRODUCTION TO ORAL SURGERY (3Cr.:2Lec., 3Pract.)

The course aims to provide the student with the knowledge and skills necessary to identify, analyze and manage general surgical problems including surgical emergencies, in order to maintain efficient, cost effective and professional patient care and enable the development and application of appropriate professional attitude, ethical principles and communication skills. In addition to ensuring collaboration of health care providers by facilitating effective inter-professional education (IPE) aiming to promote the skills, knowledge, attitudes and behaviours through interactive learning students to optimize patient's care.

It also presents general information and knowledge of ear, nose, throat and neck diseases especially those related to dental medicine and surgery, their symptoms and signs, their underlying pathophysiology and management.

In addition it provides students with basic knowledge in eye anatomy, physiology, function of vision and diagnosis as well as treatment of most common eye diseases. The relationship between dental and ophthalmic infections is highlighted.

Pre-req.: ORAD 224 & OPER 224 & MICR 223

PERI 323 - PREVENTIVE PERIODONTOLOGY (1Cr.:1Lec., 1Pract.)

The course introduces the students to the scientific basis of periodontics with emphasis on "Prevention". The basic micro and macro anatomy of the periodontium as well as the etiology, clinical features and classification of periodontal diseases are covered. The course will develop the students' skills to provide patients with comprehensive education regarding oral hygiene measures. It will reinforce the importance of periodontal oral health in relation to the general health of the patient. In addition students will gain clinical experience by accomplishing phase I periodontal therapy through detection and removal of dental plaque, calculus, and stains.

Pre-req.: MICR 223; Co-req.: ODTP 321

FPRO 322 - PRECLINICAL FIXED PROSTHODONTICS IV (2Cr.:1Lec., 2Pract.)

The course aims to introduce the methods of soft tissue management in relation to the prepared teeth, the various materials and techniques regarding impression bite registration and provisional restorations. Also clarify the try-in step, select the shade of teeth and how to communicate with dental lab.

Pre-req.: FPRO 321

GSRG 322 - GENERAL SURGERY, ENT AND OPHTHALMOLOGY (2Cr.:2Lec., 1Pract.)

The course aims to provide the student with the knowledge and skills necessary to identify, analyze and manage general surgical problems including surgical emergencies, in order to maintain efficient, cost effective and professional patient care and enable the development and application of appropriate professional attitude, ethical principles and communication skills. In addition to ensuring collaboration of health care providers by facilitating effective inter-professional education (IPE) aiming to promote the skills, knowledge, attitudes and behaviours through interactive learning students to optimize patient's care.

It also presents general information and knowledge of ear, nose, throat and neck diseases especially those related to dental medicine and surgery, their symptoms and signs, their underlying pathophysiology and management.

In addition it provides students with basic knowledge in eye anatomy, physiology, function of vision and diagnosis as well as treatment of most common eye diseases. The relationship between dental and ophthalmic infections is highlighted. *Pre-req.: PATH 223*

OPER 322 - OPERATIVE DENTISTRY I (2Cr.:1Lec., 3Pract.)

The course provides students with profound knowledge regarding patient assessment, diagnosis, and treatment planning in restorative dentistry to be implemented in the clinical setting. Students are anticipated to develop correct judgment about deep carious lesions and when is it necessary to apply therapeutic material and properly select suitable type of dental restoration. They will learn how to manage tooth pain and hypersensitivity. Students will continue developing their clinical skills in handling simple to moderate operative cases using a conservative approach according to set criteria. Students are expected to complete their patient's needs in a safe environment and apply basic standards of infection control. Four-handed dentistry is practiced in the clinical sessions.

Pre-req.: OPER 321

OPTH 322 - ORAL PATHOLOGY II (2Cr.:2Lec., 1Pract.)

Provides the student with the ability to diagnose various common oral and dental diseases such as pulp and periapical diseases. The student will be able to interpret different radiographic picture according to their pathologic bases. The students will also be able to define the different pathological aspects of oral diseases and neoplasms with a close focus on oral cancer. The students are expected to be open-minded, flexible and possess personal skills in presentation, communication and critical thinking. They will possess the ability to pursue further studies and research in the various pathological conditions to direct them towards improving community health.

Pre-req.: OPTH 224 Co-req.: OMED 324

RPRO 322 - PRECLINICAL REMOVABLE PROSTHODONTICS IV (2Cr.:1Lec., 2Pract.)

This course is a continuation of RPRO 321 which describes indirect retainers as regards forms and functions as well as factors affecting its effectiveness. The major connectors requirements, types including maxillary and mandibular as well as minor connectors are also presented. Stress breakers, types, indications and advantages are described. The course focuses on planning removable partial denture, laboratory procedures for casting and finishing metal framework and the construction of acrylic partial denture.

Pre-req.: RPRO 321

ENDO 324 - PRECLINICAL ENDODONTICS II (3Cr.:1Lec., 5Pract.)

Presents root canal instrumentation techniques in straight and curved root canals. Obturation materials and different obturation techniques. Classify and describe clinical, radiographic and histological picture of pulp and periapical diseases.

Pre-req.: ENDO 323

OMED 324 - ORAL MEDICINE (2Cr.:2Lec., 1Pract.)

The course allows the students to recognize, diagnose and treat the oral manifestations of some autoimmune and infectious diseases. Acquire the knowledge, understanding, skills and attitudes necessary to prevent, diagnose and manage common oral and dental diseases as well as the effect of chemo/radiotherapy on oral tissues. In addition to dental management for medically compromised patients including hematologic and bleeding disorders. It allows the students to recognize, diagnose and treat the oral manifestations of systemic diseases, including ulcerative, vesiculo-bullous lesions, red and white lesions. The course also covers the etiology, differential diagnosis and management of orofacial pain.

Pre-req.: ORBL 224 Co-req.: OPTH 322

PERI 324 - PERIODONTOLOGY I (2Cr.:1Lec., 2Pract.)

The course aims to provide a thorough education in periodontics for an improved understanding of periodontal diseases. The course will cover the recognition and understanding of the clinical manifestations of periodontal pocket, trauma from occlusion and their significant role in periodontal disease progression. In addition it covers the prognosis and comprehensive treatment plan of various forms of periodontal disease. It also focuses on the clinical features of various forms of periodontal diseases with emphasis on rationales and principles of non-surgical therapeutic modalities.

Pre-req.: PERI 323

FPRO 421 - FIXED PROSTHODONTICS I (3Cr.:1Lec., 5Pract.)

The aim is to provide basic guidelines to fully comprehend the patient's body language. Clarifying the treatment plan options, types and conditions of abutments to identify hopeless teeth. To understand the biocompatibility of different materials used in fixed prosthodontics and explaining the hybrid prosthesis along with its clinical steps.

Pre-req.: FPRO 322

OPER 421 - OPERATIVE DENTISTRY II (2Cr.:1Lec., 3Pract.)

The course provides advance knowledge and skills in the area of adhesive dentistry. Student will be able to master direct and indirect esthetic restorations as well as in-office bleaching. Management of mutilated teeth will be featured and clinically students are expected to be competent to complete more complex cases. As part of the course, student will be asked to present their clinical cases with all required documentation in seminar format and group discussion.

Pre-req.: OPER 322

OSRG 421 - ORAL SURGERY I (3Cr.:2Lec., 2Pract.)

The course aims to educate the students the basic principles of simple and complicated extraction of teeth. The course enables them to have intellectual and clinical skills in surgical extraction of impacted teeth. It also trains the students to evaluate and manage the complications of minor surgical operations. The course aims to educate the students about basic principles of all possible techniques for soft and hard tissues preprosthetic surgeries. The course enables the students to assess and manage sinus odontogenic disease. Also, how to diagnose the different diseases of the salivary glands and its possible treatment modalities.

Pre-req.: OSRG 323

PEDI 421 - PREVENTIVE AND PEDIATRIC DENTISTRY I (2Cr.:1Lec., 2Pract.)

The course aims to enable the students to recognize the developmental stages of dentition and occlusion as well as morphological difference between primary and permanent teeth. It helps the student understands the mechanism of eruption and exfoliation and identify problems associated with the eruption process to help them to develop future clinical diagnostic sense. The course also aims to enable the students to identify children with potential occlusal problems, and intercept, prevent, treat and eliminate factors involved in producing oro-facial abnormalities including the use of different habit breaking appliances and different types of space maintainers.

Prevention component is emphasized in this course to enrich the students competencies in detecting and preventing some orodontal problems in children. In this course, prevention of occlusal abnormalities and abnormalities in teeth eruption is addressed as well as prevention of oral habits and space problems.

Pre-req.: PHBS 226

RPRO 421 - REMOVABLE PROSTHODONTICS I (2Cr.:1Lec., 3Pract.)

The course deals with the management of the completely edentulous patient. Topics include examination, diagnosis and treatment plan, impressions objectives, preliminary and final impression techniques as well as materials used. The course describes the techniques for recording maxillo-mandibular relationship, selection and arrangement of artificial teeth, principles of occlusion, try in, insertion as well as instructions given to the patient.

Pre-req.: RPRO 322

ENDO 423 - ENDODONTICS I (2Cr.:1Lec., 3Pract.)

This course emphasizes on endodontic diagnosis and treatment planning, clinical and radiographic examination of pulp and periapical diseases; non-traumatic endodontic emergencies: pretreatment, inter-appointment and post obturation emergencies; Drugs used in endodontics and retreatment of failure. During this course the student is introduced to the clinics to start practicing diagnosis.

Pre-req.: ENDO 324

ORTD 423 - ORTHODONTICS I (2Cr.:1Lec., 2Pract.)

The course aims to provide students with the basic knowledge of craniofacial growth and development, including the development of the dentition. It clarifies the principles of classification of malocclusion and possible etiological factors. It guides the student through systematic organized diagnosis of developed as well as developing malocclusions, including up to date diagnostic aids in addition to classical diagnostic tools. It provide students with a strong foundation in the areas of clinical application of various orthodontic appliances relevant to the different malocclusions.

The student will be trained to apply the principles of critical thinking and problem solving related to the comprehensive care of patients. Guiding the student to differentiate between simple cases which a general practitioner can treat, from those demanding referral to an orthodontist, with special emphasis on interceptive treatment. The student will be involved in the prescription, fabrication and clinical use of removable appliances for treatment of simple cases.

Pre-req.: OCLS 223

PERI 423 - PERIODONTOLOGY II (1Cr.:1Lec., 1Pract.)

The course provides an in depth knowledge in surgical management of different periodontal diseases with an emphasis on indications, contraindications as well as the principles that govern various periodontal surgical procedures. It also focuses on different periodontal flap techniques and uses of laser in various dental procedures. Students are exposed to wide range of patients with various periodontal problems, all get clinical experience in non surgical treatment and observation in different surgical periodontal procedures.

Pre-req.: PERI 324

FPRO 422 - FIXED PROSTHODONTICS II (3Cr.:1Lec., 5Pract.)

The aim is to explain the different types of laminate veneer restoration, several options to treat mutilated and periodontally compromised teeth, on the other hand clarifying uses of laser in fixed prosthodontics and recent classifications, materials, techniques for new ceramic systems.

Pre-req.: FPRO 421

OPER 422 - OPERATIVE DENTISTRY III (3Cr.:1Lec., 4.5Pract.)

The course provides additional knowledge and experience about esthetic dentistry. In-depth knowledge is provided on the fundamentals of esthetic dentistry, smile analysis and design, DSD, microesthetics, dental photography, esthetic work-up and predictable esthetic treatment plan. Students will be able to manage esthetic defects and clinically practice diastema closure,

composite build-up, and direct composite veneers. By the end of this course, the student will start from the point view of art and build up the concept of esthetics in patient evaluation and treatment.

Pre-req.: OPER 421

OSRG 422 - ORAL SURGERY II (3Cr.:2Lec., 2.5Pract.)

The course aims to educate the students about different types of oral biopsies and differential diagnosis of the head and neck cysts and tumors with description of its different treatment approaches. The course also aims to introduce the students to the scope of maxillofacial surgery and provides them with knowledge about the principles, bacteriology, causes and propagation of odontogenic infection and its different types of presentation either intraoral or extraoral (fascial spaces of infection) and its management including incision and drainage and antibiotics.

Pre-req.: OSRG 421

RPRO 422 - REMOVABLE PROSTHODONTICS II (2Cr.:1Lec., 2.5Pract.)

The course helps the student to recognize patients' complaints, post-insertion care and changes. Management of residual ridge resorption, problems, surgical and prosthetic management are also discussed. It focuses on complete denture relining, types and uses of different relining materials. Prosthetic management and comprehensive care for geriatric patients are covered. Advanced prosthodontic treatment are introduced as tooth supported overdentures. Phonetics and speech problem of prosthetic origin are discussed.

Pre-req.: RPRO 421

ENDO 424 - ENDODONTICS II (3Cr.:1Lec., 4.5Pract.)

Introduces students to root resorption; Vital pulp therapy: direct and indirect pulp capping, pulptomy and revascularization; management of open apex: Apexification and apexogenesis in permanent teeth; traumatic injuries: classification and treatment.

Pre-req.: ENDO 423

ORTD 424 ORTHODONTICS II (2Cr.:1Lec., 2Pract.)

This course will lay emphasis on the skills of comprehensive treatment planning in cases such as missing and impacted teeth, in addition to supplying students with solid basis in the interdisciplinary approach of treating malocclusion, management of surgical as well as cleft lip and palate cases. The concept of anchorage will be introduced and clarified together with basic concepts of biomechanics. The causes of orthodontic relapse and importance of retention will be also discussed in detail, and the design of different retention appliances will be clarified. The clinical experience of the student will be stressed through the follow up of removable appliance cases.

Pre-req.: ORTD 423

PEDI 424 - PREVENTIVE AND PEDIATRIC DENTISTRY II (1Cr.:1Lec., 1Pract.)

The course is designed to help the student to recognize the morphologic modifications of cavity preparations in primary teeth and develop the clinical judgment concerning the restorative materials used. Principles of pulp therapy, the concepts, etiologic factors, and clinical picture of nursing and rampant caries are also covered. Child management both psychologically and pharmacologically will also be addressed to allow students to be prepared with some information about the child psychology before being in charge of treating child patient.

In this course prevention component is emphasized as this course also provides practical and relevant information that help the student to provide comprehensive preventive advice and recommendations to parents regarding nursing habits to prevent early childhood caries (ECC) Management of ECC is also addressed. To enrich student competency in delivering comprehensive relevant preventive advice to patients and their parents, students will be allowed to enter the clinics with senior students to give oral hygiene instructions to the pediatric patients and their parents and to be familiar to the atmosphere.

Pre-req.: PEDI 421

FPRO 521 - FIXED PROSTHODONTICS III (3Cr.:1Lec., 5Pract.)

The course provides the principles of esthetic along with the necessary knowledge to deal with single tooth replacement and mouth rehabilitation cases. Causes of tooth surface loss, occlusal analysis and correction will be emphasized. Rationale and presurgical treatment planning for dental implants are also discussed. In addition to TMD management using different types of occlusal splints and prosthetic failure will be discussed.

Pre-req.: FPRO 422

OPER 521 - OPERATIVE DENTISTRY IV (2Cr.:1Lec., 3Pract.)

The course offers clinical experience in interdisciplinary approach where students will be able to practice operative and esthetic dentistry of more complex cases using appropriate sequential treatment plan. Students are expected to provide independent clinical judgment with decreasing supervision. They will be competent in judging failed restoration and making proper decision regarding repair or replacement. At the end of the course, student will be asked to present a completed comprehensive case with smile analysis and treatment offered. *Pre-req.: OPER 422*

OSRG 521 - ORAL SURGERY AND IMPLANTOLOGY (2Cr.:1Lec., 2Pract.)

It will introduce the candidates to the different types of dental implants, the treatment planning for implant cases and the delayed versus the immediate surgical techniques for implant placement. The course will give the student an idea about

the augmentation techniques and materials used for dealing with resorbed ridge for dental implants placement. The course gives an idea about the anatomy of TMJ and the different disorders that can occur within the TMJ and the different ways for their management. Finally, the course introduces the students to the principles of corrections of dentofacial deformities and orthognathic surgeries. **Pre-req.:** OSRG 422

PEDI 521 - PEDIATRIC DENTISTRY I (2Cr.:1Lec., 2.5Pract.)

The course represents a substantial foundation for practicing comprehensive dentistry with children. The topics teach the student basic knowledge concerning clinical assessment of the child, diagnosis and treatment plan formulation, various caries assessment modalities and their role in caries prediction and management. The course is also designed to help the student to recognize the behavioural characteristics of children and implement techniques of behavioural management for children. It is also designed to help the students to recognize management techniques for children with traumatic injuries. Students will be able to practice standard comprehensive preventive and therapeutic oral health care for children from birth, childhood through adolescence based on proper anticipatory guidance.

Pre-req.: PEDI 424

PERI 521 - PERIODONTOLOGY III (1Cr.:1Lec.)

The course is a continuation of previous course and is designed to provide students with an in-depth awareness of etiology, diagnosis as well as different periodontal plastic and aesthetic surgeries. In addition, it covers management of periodontal surgical complications. Moreover, it focuses on laser application for periodontal therapy as well as periodontal considerations of dental implant. **Pre-req.:** PERI 423

PHBS 521 - ETHICS AND PROFESSIONALISM IN DENTISTRY (1Cr.:1Lec.)

The course aims at providing the student with the legal rules governing the profession and an understanding of the importance of clinician-patient sound relationship for the success of the delivered treatment. The ethical principles that prevail on the practice of dentistry are presented, together with the rights and obligations of the dentist towards his patients, colleagues and public authorities, as well as patient's duties towards his dentist. Documentation, report writing techniques for legal necessities and/or for referrals are taught. The Lebanese taxation system is presented and professional skill development is highlighted as one of the dentist's obligations. Finally, the mission and scope of authority of both Lebanese Dental Association (LDA) and the Ministry of Public Health (MOPH) are described together with most relevant funds, boards and regulations.

Pre-req.: PHBS 321

RPRO 521 - REMOVABLE PROSTHODONTICS III (2Cr.:1Lec., 2.5Pract.)

The course deals with the management of the partially edentulous patient. Topics include examination, diagnosis and treatment plan, mouth preparation, primary and final impressions, principles and philosophies of design, maxillo-mandibular relationship, trial fitting of metal framework. Principles of tooth selection, try-in, check occlusion, denture insertion, patient's instructions and complaints are discussed.

Pre-req.: RPRO 422

ENDO 523 - ENDODONTICS III (3Cr.:1Lec., 6Pract.)

Emphasizes on procedural accidents, prevention and management. Nickel-Titanium rotary instruments: Application and description of different techniques of instrumentations using different systems of Niti Files. Endodontic microbiology: association of bacteria and periapical disease, indications and techniques for culturing. Endodontic periodontal interrelationship; and geriatric endodontics.

Pre-req.: ENDO 421

CLNC 522 - CLINICAL COMPREHENSIVE CARE (2Cr.:2Lec.)

This course is designed to endorse the concept of total patient care. Throughout the clinical courses, students are provided with ample opportunities to develop their competency in treatment planning and case presentation. During the senior year, in the integrated clinics, students provide total care for their patients following a model resembling a private practice. They are also responsible for the completion of the treatment of their assigned patients. All comprehensive clinical experiences are grouped into a single course, at which students present and discuss their documented cases in a scheduled seminar sessions as a partial fulfillment of their graduation requirements (OSCE). A multidisciplinary committee will evaluate the student's work.

Co-req.: PROS 524

PEDI 522 - PEDIATRIC DENTISTRY II (3Cr.:2Lec., 2Pract.)

The course includes gingival and periodontal diseases affecting the child patient from birth through adolescence to help the students identify the condition, readily diagnose it and manage the child patient with prescription of medication whenever needed. The different pathological conditions that might affect the oral and paraoral tissues in children and infants are also covered. It is designed as well to help the student comprehend the different categories of children with special needs as well as medically compromised patients. The influence of diet and nutrition on the oral conditions of children is also covered. Minimal intervention as a concept in patient management is high lightened throughout the course.

Pre-req.: PEDI 521

PHBS 522 - INTERPROFESSIONAL EDUCATION FOR HEALTH CARE (1:Cr3:1Lec., 1Pract.)

The course aims to foster the students' knowledge, skills, attitudes and behaviors essential to facilitate effective interprofessional (IP) collaborative practice among health care providers. The course provides students with the fundamental IP competencies, which are necessary for a coordinated and safe IP collaboration that decreases medical errors, and improves patient's safety and outcomes regardless of their practice environment and professional discipline. Through interactive learning, students will explore ways in which their professions can work together in order to optimize patient's care respecting each other's roles and responsibilities. The course employs a variety of interactive learning methods and technologies including simulation. The content addresses the errors in health care settings, case studies about patients with acute and/or chronic illnesses, as well as IP core competencies including understanding roles and responsibilities for self and others, IP conflict management, IP communication, IP collaborative leadership, team functioning, and collaborative patient-centered approach.

Pre-req.: PHBS 521

OSRG 524 - ORAL AND MAXILLOFACIAL SURGERY (2Cr.:1Lec., 2Pract.)

The course aims to educate the students in the initial management of patients with facial trauma. Familiarize them with diagnosis and different techniques of managing facial trauma cases. Also, the course will give the students an idea about the etiology and problems caused by orofacial clefts and their surgical management. Finally, the course introduces the students to the principles of reconstructions of the jaws following trauma or tumor resection.

Pre-req.: OSRG 521

PROS 524 - PROSTHODONTICS (5Cr.:1Lec., 9Pract.)

The course is designed to provide students with the technique for partial denture relining, rebasing and repair. Other forms of partial dentures, attachments used in prosthodontics, factors affecting their selection are also presented. The course also presents macro and micro anatomy of dental implants, prosthetic components and steps along with impression techniques and selection of abutments, criteria of success and failure. It also covers the role of the prosthodontist in maxillofacial prosthesis.

Pre-req.: FPRO 521 and RPRO 521; Co-req.: CLNC 522

REST 524 - RESTORATIVE DENTISTRY (5Cr.:1Lec., 9Pract.)

The course is designed to give the student the sufficient knowledge about the overall view over his treatment just before becoming an official dentist. It will help him assess his treatment success rate through evaluation of the endodontic outcome. Root canal treatment and restoration versus single tooth implant. Iatrogenic effects on the dental pulp and protecting the pulp from the effect of restorative materials. Finally, the interaction between the general dentist and the endodontist.

Pre-req.: OPER 521 & ENDO 523

Faculty Elective Courses Description

DENT 501 - ROTARY ENDODONTICS (2Cr.: 1 Lec., 2 Pract.)

Nickel titanium rotary instruments is a new generation of endodontic instruments that have added a striking new dimension to the practice of endodontics. This course aims to orient the students with the different rotary NiTi systems available in the market and train them to use those instruments in their future clinical life.

Pre-req.: ENDO 424

DENT 502 – DIGITAL DENTISTRY (CAD CAM) (2Cr.: 1 Lec., 2 Pract.)

The course is designed to introduce students to the current and emerging technologies for digital intra-oral impressions and CAD/CAM dentistry. This course will provide an understanding of the latest advances in dental CAD/CAM technology and related restorative options. Students will gain an overview of science, clinical indications, materials and techniques. They will also gather hands-on experience acquiring a digital impression, designing a digital restoration and milling a final restoration.

DENT 503 - ORAL IMPLANTOLOGY (2Cr.: 1Lec.,2 Pract.)

The course is designed to give the student an idea about the history of dental implantology. It is aimed to teach the candidate about the different types of dental implants, concepts of osseointegration and factors aiding in increasing the success rate of dental implantology. Students will be able to take an idea about the difference between delayed and immediate implantation. Recent adjunctive surgical techniques, which is performed with dental implants such as sinus lift, ridge expansion, ridge splitting, GBR and the use of PRF and PRP will be taught. Finally, dealing with complications that may arise with dental implants will be covered.

DENT 504 - LASER DENTISTRY (2Cr.: 1 Lec., 2 Pract.)

The laser course will equip the students with technical knowledge along with valuable clinical expertise in the use of dental lasers on patients in different dental applications with emphasis on clinical application of both soft and hard lasers for the treatment of periodontal diseases and conditions.

DENT 505 - COMMUNITY SERVICE (1Cr.:1Lec.)

The course is designed to help the students to understand the importance of WHO pathfinder surveys in the assessment of the oral health conditions and treatment needs of the population, as well as the planning and evaluation of oral health services.

DENT 506 - ADVANCED RADIOLOGY (CBCT) (1Cr.:1Lec.)

The course is designed to provide students with advanced knowledge in oral and maxillofacial radiology including conventional dental radiography, cone beam computed tomography (CBCT), CT scan as well as magnetic resonance imaging (MRI). It also covers other imaging modalities as nuclear medicine and bone scan, sialography and computer assisted maxillofacial imaging.

DENT 507 - FORENSIC DENTISTRY (1Cr.:1Lec.)

The objective of this course is for students to obtain in- depth knowledge and understanding of forensic dentistry history and various scientific identification methods to assist in identification of victims related to crime or accident. It also emphasizes that all dental professionals do take part in one way or another in forensic dentistry by keeping accurate, current, detailed and legible dental records to aid in the identification of individuals who are victims of criminal acts, murder investigations, missing persons, or mass fatalities.

DENT 508 - MEDICAL EMERGENCIES (1Cr.:1Lec.)

This course is designed to improve the ability of the dental student to plan, manage and handle office medical emergencies as a part of the dental team. Also, it includes the discussion of the importance of a thorough health history in dealing with medical emergencies, background information on emergencies, vital signs and emergency kit components. Finally, it provides scenarios of medical emergency situations and how to handle them.

DENT 509 - DENTAL PHOTOGRAPHY (1Cr.:1Lec.)

This course is designed for students with little or no background in photography. It provides an introductory part in history of photography and the basic components of recent cameras. This course uses the advanced digital camera to build basic skills in students who have an interest in photography, but no prior experience. Using a combination of lecture, demonstration, and hands-on exercises, this course will explore the basic photographic techniques and artistic concerns involved in making photographs. These include camera handling, composition, effective use of light and file management. Students attending the course must have a digital camera with aperture priority, shutter priority, and exposure compensation. The student will know how to use the components in different conditions to take specific photos especially while taking professional dental photos for their case presentation or documentations. The course goal is to understand the factors affecting different conditions that results in the final outcome of a properly managed photograph.

DENT 510 - OROFACIAL PAIN AND PAIN CONTROL (1Cr.:1Lec.)

The course discusses the anatomy of the head and neck emphasizing the anatomy of the TMJ and muscles of mastication. It gives an overview of the theory and principles of orofacial pain. It focuses on acquisition of clinical skills in evaluation,

diagnosis and treatment of a wide variety of TMD and orofacial pain disorders. By the end of the course the student would have a wide knowledge to conclude the differential diagnosis of odontogenic and non-odontogenic orofacial pain and the different ways for their management.

DENT 511 - PREVENTION AND RISK ASSESSMENT (1Cr.:1Lec.)

This course includes current, evidence-based content on preventive dentistry that dental clinicians will utilize during patient assessment. The course will let the candidate understand preventive dentistry which is a comprehensive approach that should calibrate the entire dental team in the individualized care and education of each patient in the dental practice. It helps to develop students' skills to prevent, detect, assess and treat dental problems and to evaluate their predictors. By the end of this course, the candidate will be capable to develop a management strategy and a follow up regimen based on patient's specific risk assessment.

DENT 512 - ORTHODONTIC CLINICAL TRAINING (1Cr.:1Lec.)

This course is an opportunity for any interested student to acquire additional experience in limited objective tooth movement. The student will attend postgraduate orthodontic clinics to monitor and assist the residents in conducting treatment. The student will be allowed to attend preclinical lab and seminars for postgraduate orthodontics. The evaluation of the course will be through Case diagnosis, assignment (on simple appliances) and wire work evaluation.

DENT 513 - RESTORATIVE DENTISTRY CLINICS (1Cr.:2.5Pract.)

This course will give the students the opportunity to practice and treat cases requiring Operative Dentistry and Endodontic under direct supervision. The primary aim of this course is to allow students to expand their skills in diagnosis and management of diseases related to loss of hard tooth structure. Students are allowed to perform different services as direct composite and amalgam restorations, indirect inlay/onlay restorations. Moreover, students will enhance their skills in diagnosis and treatment of non-vital teeth and assess the outcome of care while maintaining the highest moral and professional ethical standards.

Pre-req.: OPER 421 and ENDO 423

DENT 514 - PROSTHODONTICS CLINICS (1Cr.:2.5Pract.)

This course will let the students to perform and practice a supervised treatment for patients requiring prosthodontics care. The main objective of this course is to allow the students to develop further practical skills through performing common prosthetic procedures including complete dentures, partial dentures, custom metallic posts, and fixed porcelain fused to metal as well as all ceramic crowns and bridges. At the end of the course, the improved gained practical skills will aid the students in the more advanced successive prosthodontics courses.

Pre-req.: FPRO 421 and RPRO 421

DENT 515 - MENTORED RESEARCH (1Cr.:1Lec.)

This course will prepare students to apply their previous gained knowledge regarding the different research methodologies. It also allows the student to design a research protocol in his field of interest under the supervision of his/her mentor. By the end of this course, the student will construct an effective research proposal that will serve as the starting point for the study that he will conduct later within research project course.

DENT 516 - RESEARCH PROJECT (2Cr.:2Lec.)

The mentored research course is a prerequisite for this course. This course is designed to develop skills in research methods through active participation in research activities. By the end of this course, the research work of the candidate must be presented in a scientific manner through publishing as a journal article, conference poster/oral presentation in a national or international scientific meetings.

Pre-req.: DENT 515

DENT 517 - DIGITAL DENTISTRY (1Cr.:1Lec.)

The course is designed to introduce students to the current and emerging technologies for digital intra-oral impressions and CAD/CAM dentistry. This course will provide an understanding of the latest advances in dental CAD/CAM technology and related restorative options. Students will gain an overview of science, clinical indications, materials and techniques.

Study Plan

Bachelor Degree in Oral and Dental Surgery (B.D.S) (180 Credit Hours)

First Semester (18 Credits)			Cr.	Pre-requisite
ANAT	221	Gross Anatomy	2	NONE
BCHM	221	Biochemistry	2	NONE
BIOL	221	Molecular Genetics	1	NONE
BIOM	221	Principles of Dental Biomaterials	1	NONE
DANT	221	Dental Anatomy	2	NONE
PHRM	221	Medical Botany	2	NONE
PHYL	221	Physiology	2	NONE
----- University Elective (General) ¹			6	

Second Semester (18 Credits)			Cr.	Pre-requisite
ANAT	222	Head & Neck Anatomy	3	ANAT 221
DANT	222	Dental Anatomy & Occlusion	3	DANT 221
GHST	222	General Histology	1	NONE
MICR	222	Microbiology & Immunology	2	BCHM 221 or BIOL 221
OPER	222	Preclinical Operative Dentistry I	2	DANT 221 & BIOM 224*
BIOM	224	Applied Dental Biomaterials I	3	BIOM 221 & OPER 222*
----- University Elective (General) ¹			4	

Third Semester (18 Credits)			Cr.	Pre-requisite
FPRO	223	Preclinical Fixed Prosthodontics I	2	OPER 222
MICR	223	Applied Microbiology & Infection Control	1	MICR 222
OCLS	223	Fundamentals of Occlusion	1	DANT 222
OPER	223	Preclinical Operative Dentistry II	2	OPER 222
ORBL	223	Oral Biology I	3	GHST 222
PATH	223	Pathology	2	ANAT 221
PHBS	223	Behavioural Sciences	1	NONE
RPRO	223	Preclinical Removable Prosthodontics I	2	DANT 222 & BIOM 225*
BIOM	225	Applied Dental Biomaterials II	3	BIOM 221 & RPRO223*
----- University Elective (General) ¹			1	

Fourth Semester (18 Credits)			Cr.	Pre-requisite
FPRO	224	Preclinical Fixed Prosthodontics II	2	FPRO 223
OPER	224	Preclinical Operative Dentistry III	2	OPER 223
OPTH	224	Oral Pathology I	2	ORBL 223
ORAD	224	Oral Radiology	1	ANAT 222
ORBL	224	Oral Biology II	2	ORBL 223
PHBS	224	Research & Evidence Based Dentistry	2	PHBS 226*
PHRM	224	Pharmacology	2	PHRM 221 & PHYL 221
RPRO	224	Preclinical Removable Prosthodontics II	2	RPRO 223
PHBS	226	Preventive & Public Health Dentistry	2	PHBS 224 *
----- University Elective (General) ¹			1	

Fifth Semester (18 Credits)			Cr.	Pre-requisite
FPRO	321	Preclinical Fixed Prosthodontics III	2	FPRO 224
GMED	321	General Medicine	2	PATH 223
ODTP	321	Oral Diagnosis, Radiology & Treatment Planning	3	ORAD 224 & PERI 323*
OPER	321	Preclinical Operative Dentistry IV	2	OPER 224
PHBS	321	Practice Management	1	PHBS 223
RPRO	321	Preclinical Removable Prosthodontics III	2	RPRO 224
ENDO	323	Preclinical Endodontics I	3	ORAD 224 & OPER 224 & MICR 223
OSRG	323	Anesthesia & Introduction to Oral Surgery	2	PHRM 224
PERI	323	Preventive Periodontology	1	MICR 223 & ODTP321*

Sixth Semester (18 Credits)			Cr.	Pre-requisite
FPRO	322	Preclinical Fixed Prosthodontics IV	2	FPRO 321
GSRG	322	General Surgery, ENT & Ophthalmology	2	PATH 223
OPER	322	Operative Dentistry I	2	OPER 321
OPTH	322	Oral Pathology II	2	OPTH 224 & OMED324*
RPRO	322	Preclinical Removable Prosthodontics IV	2	RPRO 321
ENDO	324	Preclinical Endodontics II	3	ENDO 323
OMED	324	Oral Medicine	2	ORBL 224 & OPTH322*
PERI	324	Periodontology I	2	PERI 323
Faculty Electives²			1	

Seventh Semester (18 Credits)			Cr.	Pre-requisite
FPRO	421	Fixed Prosthodontics I	3	FPRO 322
OPER	421	Operative Dentistry II	2	OPER 322
OSRG	421	Oral Surgery I	3	OSRG 323
PEDI	421	Preventive & Pediatric Dentistry I	2	PHBS 226
RPRO	421	Removable Prosthodontics I	2	RPRO 322
ENDO	423	Endodontics I	2	ENDO 324
ORTD	423	Orthodontics I	2	OCLS 223
PERI	423	Periodontology II	1	PERI 324
Faculty Electives²			1	

Eighth Semester (18 Credits)			Cr.	Pre-requisite
FPRO	422	Fixed Prosthodontics II	3	FPRO 421
OPER	422	Operative Dentistry III	3	OPER 421
OSRG	422	Oral Surgery II	3	OSRG 421
RPRO	422	Removable Prosthodontics II	2	RPRO 421
ENDO	424	Endodontics II	3	ENDO 423
ORTD	424	Orthodontics II	2	ORTD 423
PEDI	424	Preventive & Pediatric Dentistry II	1	PEDI 421
Faculty Electives²			1	

Ninth Semester (18 Credits)			Cr.	Pre-requisite
FPRO	521	Fixed Prosthodontics III	3	FPRO 422
OPER	521	Operative Dentistry IV	2	OPER 422
OSRG	521	Oral Surgery & Implantology	2	OSRG 422
PEDI	521	Pediatric Dentistry I	2	PEDI 424
PERI	521	Periodontology III	1	PERI 423
PHBS	521	Ethics & Professionalism in Dentistry	1	PHBS 321
RPRO	521	Removable Prosthodontics III	2	RPRO 422
ENDO	523	Endodontics III	3	ENDO 424
Faculty Electives²			2	

Tenth Semester (18 Credits)			Cr.	Pre-requisite
CLNC	522	Comprehensive Clinical Care	2	PROS524*
PEDI	522	Pediatric Dentistry II	3	PEDI 521
PHBS	522	Interprofessional Education for Health Care	1	PHBS 521
OSRG	524	Oral & Maxillofacial Surgery	2	OSRG 521
PROS	524	Prosthodontics	5	FPRO 521 & RPRO 521 & CLNC 522*
REST	524	Restorative Dentistry	5	ENDO 523 & OPER 521

* Co-requisite

¹ A total of 12 credits is required as General University Requirements; 5 credits are selected from the University Mandatory courses list including: ARAB 001 (2Cr.), ENGL 001 (2Cr.), BLAW 001 (1Cr.) and another 7 credits are selected from the University Elective courses list + IC3.

² A total of 5 credits is required as Faculty Electives.

- The list of University Requirement courses and their descriptions are presented in the introductory pages of this catalogue.