SYRIAN ARAB REPUBLIC

Damascus University

Faculty of Dental Medicine

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الجمهورية العربية السورية

جامعة دمشق

كلية طب الأسنان

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Syllabus and Curriculum Details

For Primary Dental Quallification

ForFaculty of Dental Medicine

Damascus University

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Learning Objectives:

The goal of dental education is to produce dentists who are prepared to serve the fundamental purposes of dental medicine. In addition, dentists must possess the attributes that are necessary to meet their individual and collective responsibilities towards society. Emerging from this belief comes the basic aim of the dental faculty at Damascus University which is to graduate highly qualified dental professionals who are knowledgeable, skilful, dutiful and above all altruistic.

In order to fulfil the above mentioned goal, specific learning objectives have been set and developed by the faculty to be implemented through the different study stages of the student at the faculty through the five successive academic years.

The main learning objectives include:

I. To graduate socially and ethically sensitive and responsible highly qualified dental professionals who will be dedicated to serving others in the community.

II. To provide students with good knowledge of the principles that govern ethical decision making and of the major ethical dilemmas that are faced in the field of dentistry.

III. To create dental professionals who would care for compassionate treatment of patients and respect their privacy and dignity.

IV. To provide students with good knowledge of:

- Normal structures and functions of the body including major organ systems.
- Molecular, biochemical and cellular mechanisms that take place within the body.
- The altered structure and function (pathology and pathophysiology) of the body and the oral cavity.
- Relieving dental pain and minimizing the suffering of patients resulting from acute infections.
- The epidemiology of common oral diseases within a defined population and following the systematic approaches which are useful in reducing the incidence and prevalence of such diseases.

V. To make dental students have the appropriate skills for:

- Obtaining accurate medical and dental history that covers all aspects related to oral health.
- Performing complete extra and intra oral examinations.
- Interpreting results of commonly used diagnostic procedures including laboratory tests and radiographs.
- Seeking consultation from other physicians and other health professionals when needed and indicated.

VI. To enhance dental students' abilities in clinical diagnosis, treatment planning and delivery of clinical care.

VII. To prepare trained students to become qualified general dentists who would treat patients with basic safe treatment needs in various dental disciplines which could be summarized as follows:

- To be able to perform restorative and root canal treatment for different age group patients.
- To be able to carry out removable and fixed prosthodontic treatment including partial dentures, complete dentures as well as bridges, crowns and post crowns.

- To be able to manage the child patient and execute the necessary needed treatment for such target group including restorations, pulpotomies, pulpotomies, space maintainers, orthodontic treatment and extractions.
- To know how to do dental professional teeth cleaning procedures as scaling and root planning.
- To be capable of performing simple extractions and minor oral surgeries for unrestorable teeth.
- To be capable of dealing with the medically compromised patient and seeking consultation when needed.

VIII. To increase students opportunities for research or to expose them for research opportunities and strengthen their research capabilities

IX. To graduate a dental professional who is highly competent for continuing higher education in any dental field.

Study Stages:

Study period to achieve Doctor of Dentistry Licence is Five Academic years, taking in consideration that each academic year is made of two semesters, each semester is made of 16 weeks, total weeks:
16×10=160 weeks.

The student passes through two main stages during which he gains all expected knowledge and training to become a highly skilled and qualified dentist who can achieve the intended goals in his future career:

The preclinical stage:

This stage is implemented in the first three years, where the student is exposed to all basic medical and dental sciences. The student receives his courses that is served and facilitated by various faculties such as thefaculty of medicine, and the faculty of pharmacy.

The clinical stage:

This stage is implemented in the last two years (fourth and fifth), where the student is exposed to various specialties of the dental art and medicine; and receives the suitable training to become able to treat patients.

Exams:

The assessment of all subjects took the form of :
Formative assessment which involved monitoring and feedback throughout the course by answering some clinically relevant questions.
Summative assessment which involved midterm and final exams (Short answers and MCQs) , Quiz, and OSCE (clinical exams for the subjects at the end of year 4 and5).

MCQs: Multiple Choice Questions
OSCE :Objective Structures Clinical Exam

Academic subjects are distributed on the academic five years; weekly hours for each subject are as below:

B –Syllabus: Subjects and Hours Distribution			
Sixth Act: Taking into consideration the military training and productivity camps the academic subjects are distributed on all years of study and their semesters and the number of hours in each subject are assigned as follows:			
First Year First Semester			
Subject	Weekly Hours		
	Theory	Practical	
Arabic Language (1)	2	-	
National Socialistic Education (1)	4	-	
MedicalPhysics & Biophysics	2	2	
General Chemistry	2	2	
Cell Biology	4	4	
Psychology and Statistics	2	-	
Total	16	8	24
Second Semester			
Subject	Weekly Hours		
	Theory	Practical	
Arabic Language (1)	2	-	
Foreign Language (1)	4	-	
Microbiology and Parasitology General and Oral	2	2	
Dental Anatomy (Drawing and Carving)	-	4	
Anatomy and EmbryologyGeneral and Oral	5	2	
Biochemistry General and Oral	3	2	
Total	16	10	26

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Second Year First Semester			
Subject	Weekly Hours		
	Theory	Practical	
Arabic Language (2)	2	-	
Foreign Language (2)	4	-	
Fixed Prosthodontics (Crowns and Bridges) (1)	2	6	
General Histology	2	2	
Physiology and Nutrition General and Oral	4	2	
Pharmacology General and Oral	2	-	
Restorative Dental Material	1	2	
Total	17	12	29

Second Semester			
Subject	Weekly Hours		
	Theory	Practical	
Arabic Language (2)	2	-	
National Socialistic Education (2)	4	-	
Restorative Dentistry (1)	2	6	
Oral Histology	2	4	
Partial Removable Prosthodontics (1)	2	4	
Radiology	2	2	
Dental Prosthodontics Materials	1	2	
Total	15	18	33

Third Year First Semester			
Subject	Weekly Hours		
	Theory	Practical	
Arabic Language (3)	2	-	
Partial Removable Prosthodontics (2)	2	4	
Internal Diseases, Dermatology & Venereology	3	-	
Ophthalmology, Otolaryngology	2	-	
Public Health, History of Medicine and Ethics of Practicing the Profession	2	-	
Restorative Dentistry(2)	2	6	
General Histopathology	2	4	
Total	15	14	29

Second Semester			
Subject	Weekly Hours		
	Theory	Practical	
Arabic Language (3)	2	-	
Foreign Language (3)	4	-	
Minor Surgery and Surgical Diseases	3	1	
Occlusion	2	-	
Fixed Prosthodontics (Crowns and Bridges) (2)	2	6	
Oral & Dental Histopathology	3	3	
PreventiveOral Medicine	2	-	
Total	18	10	28

Fourth Year First Semester			
Subject	Weekly Hours		
	Theory	Practical	
Arabic Language (4)	2	-	
Foreign Language (4)	4	-	
Endodontics (1)	1	2	
Oral Diseases (1)	1	2	
Restorative Dentistry (3)	1	6	
Complete RemovableProsthodontics(1)	1	2	
Orthodontics (1)	4	4	
Anaesthesia and Extraction (1)	2	4	
Total	16	20	36

Second Semester			
Subject	Weekly Hours		
	Theory	Practical	
Arabic Language (4)	2	-	
Oral Diseases (2)	1	2	
Paediatric Dentistry (1)	2	2	
Complete Removable Prosthodontics(2) and Maxillofacial Prosthodontics	2	2	
Endodontics (2)	1	2	
Anaesthesia and Extraction (2)	1	4	
Fixed Prosthodontics (Crowns & Bridges) (3)	2	4	
Periodontics(1)	2	4	
Total	13	20	33

Fifth Year First Semester			
Subject	Weekly Hours		
	Theory	Practical	
Arabic Language (5)	2	-	
Fixed Prosthodontics (Crowns & Bridges) (4)	-	4	
Complete Removable Prosthodontics (3)	-	4	
Paediatric Dentistry (2)	-	4	
Anaesthesia and Extraction (3)	-	4	
Endodontics (3)	-	4	
Foreign Language (5)	4	-	
Periodontics (2)	-	4	
Total	6	24	30

Second Semester			
Subject	Weekly Hours		
	Theory	Practical	
Arabic Language (5)	2	-	
Anaesthesia and Extraction (4)	-	4	
Orthodontics (2)	-	4	
Fixed Prosthodontics (Crowns & Bridges) (5)	-	4	
Complete Removable Prosthodontics (4)	-	4	
Oral and Maxillofacial Surgery	2	2	
Endodontics (4)	-	4	
Restorative Dentistry (4)	-	4	
Total	4	26	30

Attendance and practical training:

Attendance is compulsory in all academic years, and the required attendance percentage to be qualified to take the exam is at least 80% of the total of the practical (laboratory and clinical) and theory hours, and of each subject, student how fails to achieve the required percentage is prohibited from taking the exam.

If the student failed the exam in a subject it is their right to keep the mark they obtained in the practical section, and they could retake the practical exam as long they keep the year work if not they have to retake the practical hours in order to redo the year work and the practical exam after providing a written application on the beginning of the academic semester. The student should obtain one third of the mark at least in the practical section to be allowed to take the theory exam.

Examination:

1.Subjects which include practical and theory sections are as follow:

- Mark is divided to 50% theory and50%practical on condition that the passing score is obtained. The student has to obtain one third of the mark at least in each section (practical and theory) to pass the exam.

2.Year work and practical training marks are as follow:

- Practical subjects in general marks are divided to 60% year work and 40% practical exam.
- Subject which includes practical and theory sections the 50% for the practical section is divided to 30% year work and 20% practical exam. The student has to obtain one third at least of the year work mark to be allowed to take the practical exam.

3.Practical sections in subjects comprise clinical and laboratory training according to each subject and academic year.

4**Curriculum details for each year for the School of Dentistry, Damascus University**

- Cell Biology: ((First year, First semester)) 60 hours theory/ 60 hours practical

  The subject studies extensively the Cytology (methods of studying cells and their preparations, the chemical composition of living material, the contents of cell and their physiological functions) then it moves to study the Sexual Reproduction (evolution of sex cells, the formation of the genitals in mammals, fertilization). It also looks at the genetics in humans, before moving on to give an introduction to Animal Embryology, the subject consist of lectures in theory and practical laboratory sessions.
- Medical Physics and Biophysics: ((First year, First semester)) 30 hours theory/ 30 hours practical

  The subject includes lectures research on the biophysical phenomena that occur within the mouth. It looks at the structure of bone tissue mould, solid tissues, the phenomenon of mineralization and mineral balance in the body, the process of formation and reformation of the bone, as well as the physical base for the electrolytes movement and their balance. The lectures in theory and practical lab sessions aim to show the general basics of the physical laws and phenomena in light, sound, electricity and radiation.
- Dental Anatomy (Drawing and Carving): ((First year, Second semester)) 60 hours practical

  Study of the formal structure of each tooth, temporary and permanent teeth and their mutual relations in the single dental arch and their mutual relations among the upper and lower dental arches with an explanation of their role in preserving and protecting periodontium, the manual and practical skills for students in this area is being developed by practical sessions in dental drawing and carving.
- General Chemistry: ((First year, First semester)) 30 hours theory/ 30 hours practical

  The lectures in theory and practical laboratory sessions aim to consolidate understanding of the organic and inorganic chemistry principles through a systematic study of the chemistry of the elements and various element groups to study the specifications, transformations and interactions of these elements with compounds representing the various classes of element groups.
- Anatomy and Embryology General and Oral: ((First year, Second semester)) 75 hours theory/ 30 hours practical

  Study of head and neck anatomy by lectures in theory and practical anatomy sessions, emphasis on the profiling anatomy which is of special importance in dentistry and also studying the embryonic formation and evolution of craniofacial tissues in humans.
- Biochemistry General and Oral: ((First year, Second semester)) 45 hours theory/ 30 hours practical

  The course focuses on the chemical reactions in the context of the functions of living tissue as it is researching the proteins, carbohydrates, fats and nucleic acids, chemical structure and function and the absolute interactions of energy and the synthesis and use of energy and the chemical base of heredity, the practical programme enhances the given lectures in theory.
- Microbiology and Parasitology General and Oral : ((First year, Second semester)) 30 hours theory/ 30 hours practical

Study of germs, parasites, viruses and fungi and their relative immunity to prepare the students to study infectious diseases and provide them with knowledge about the general features of the different pathogenicity factors in humans and the laboratory work gives the microbial techniques and immunity elements. It focuses on the observation of attributes to satisfy the microorganisms and its bio-chemical activity, it completes in the important diseases that caused by animal parasites and particularly those of epidemiological importance in Syrian Arab Republic.

- Psychology and statistics: ((First year, First semester)) 30 hours theory

  Psychology: This subject seeks to develop the management behaviour skills of the students of dentistry by introduction explains the psychological and social principles and the necessary conversational basics for successful dental practice.
  Statistics: This subject aims to provide the student with the basic knowledge necessary for statistical interpretation, reading medical articles and analysing of statistical data.
- Pharmacology General and Oral: ((Second year, First semester)) 30 hours theory

  The course aims to explain the role of drugs in the cases of health and illness, with particular attention to medicines used in dentistry by examining the general principles of Pharmacology and types of drugs and their properties, mechanisms of their different effects and their toxicity to provide students with the necessary knowledge to select the necessary medicines in the medical dental practice.
- General Histology: ((Second year, First semester)) 30 hours theory/ 30 hours practical

  Theoretical and laboratorial study of dissection microscopy (optical and electronic) for cells, tissues and organs that make up the human body and the emphasis is on the relationship between the structure and the function and on the recent discoveries in the field of electronic microscope and tissue chemical colouring.
- Physiology and Nutrition General and Oral: ((Second year, First semester)) 60 hours theory/ 30 hours practical

  A study of the physiology of cells, tissues, organs and the integrated body functions to form a foundation enables students to understand the clinical cases in practical life and there is special attention of the physiology of the nervous system. The lectures are supported by experiments to do measurements and testing on laboratory animals.
- Restorative Dental Materials (second year/first term) 15 hours theoretical / 30 hours practical

  Detailed study for physiochemical features for dental material , and also searches in their usage methods and their vital effects , the theoretical information is confirmed by laboratory-practical sessions and clinical applications for different subjects.
- Oral Histology: ((Second year, Second semester)) 30 hours theory/ 60 hours practical

  In this subject there are detailed lectures in theory and laboratorial study of the structure and the development of teeth and the supporting soft and hard tissues and the rest of the tissues in the oral region.
- Radiology: ((Second year, Second semester)) 30 hours theoretical/ 30 hours practical

  A comprehensive study of oral and Jaw radiology in its four aspects: the physics of radiation, energetic of radiation, radiography techniques and methods, and finally reading diagnostic radiographs and that all is through lectures in theory and laboratory and clinical sessions that allow students to apply radiography techniques on new patients and reading them with the help of specialist supervisors.

- Dental Prosthodontics Materials: ((Second year, Second semester)): Study of the mechanical and physical properties of dental materials 15 hours theory/ 30 hours practical

Impression material	Investing powder	Complete ceramic
Gypsum products	Poly-carboxylate	Dental cements
Dental waxes	Metal ceramic	

- Restorative Dentistry:((Second year, Second semester)) - ((Third year, First semester)) 30 hours theory/ 90 hours practical - 30 hours theory/ 90 hours practical, ((Fourth year, First semester)) - ((Fifth year, Second semester)) 15 hours theory/ 90 hours practical - 60 hours practical

  The course for the second and third year forms lessons in theory and laboratory base for conservative restorative dental treatment and it is a comprehensive introduction, researches into dental restorations systems within the coronary that includes moulded Amalgam and golden restorations - adhesive and resin composite, while the fourth year it is the applied clinical practice of these restorative systems with an emphasis on the importance of diagnosis and the development of a comprehensive accurate treatment plan on the one hand and on the preventive aspects on the other hand, with a detailed review of the bio materials used in these techniques and methods of using them within the theory sections.

- Fixed Prosthodontics (Crowns and Bridges): ((Second year, First semester)) - ((Third year, Second semester))30 hours theory/ 90 hours practical - 30 hours theory/ 90 hours practical, ((Fourth year, First semester)) - ((Fifth year, First and Second semester)) 30 hours theory/ 60 hours practical - 60 hours practical

  The course for the second, third and fourth years forms the clinical section (theory/laboratorial) of the whole course, it is a comprehensive detailed study of patterns outside the coronary (covering the crown) and is a research about individual crowns and multiple bridges. There is also in-depth study of the materials used in fixed prosthodontics and techniques used with a detailed discussion of the basics of diagnosis and setting an accurate plan of treatment.

  It also studies different techniques for the constant disease and indications relating to various conditions and the basics of the differential diagnosis are required for each patient with an emphasis on integration between periodontal and endodontic considerations that could affect the final outcome. As for the fifth year the clinical section extends throughout two full semesters to allow the practical application of various techniques for several types of fixed prosthodontics.
- General Histopathology: ((Third year, First semester)) 30 hours theory/ 60 hours practical

  Explain the fundamental mechanisms and the general principles of pathology through lectures in theory, researches include discussion of inflammation and immune pathology and bloody lesions and tumours and are supported by practical sessions to study slides and biopsies.
- Oral & Dental Histopathology: ((Third year, Second semester)) 45 hours theory/ 45 hours practical

  This subject is integrated with the general pathology to link the principles of general pathology on the one hand and the signs and symptoms of oral diseases on the other hand, and is studying the nature of the diseases affecting the oral area through the examination of the causes, mechanisms, consequences and changes associated with them in structure and oral dental function, the lectures in theory are supported by the necessary clinical and laboratory sessions.
- Minor Surgery and Surgical Diseases: ((Third year, Second semester)) 45 hours theory/ 15 hours practical

  This subject is given in coordination with the Faculty of Medicine to provide a strong foundation of knowledge regarding the general principles of medical surgical examination and treatment procedures for minor surgical cases and general various paramedical cases. This subject is an extension of a deeper approach to internal diseases subject in the third year on topics of injuries in digestive system, respiratory and circulatory system and endocrine glands that require surgical intervention. It also researches with a focus on cases of trauma, burns and their treatment and the possible role of the dentist in the diagnosis and their primary care handling.
- Internal Diseases, Dermatology and Venereology: ((Third year, First semester)) 45 hours theory

  This subject which is given in coordination with the Faculty of Medicine provides an overview of the principles of internal medicine and dermatology and venereology diseases with an emphasis on common diseases of particular importance to dentist, to study the phenomenon of general and oral internal, dermatology and venereology diseases, their diagnosis, methods of treatment and the importance of the role of the dentist in the early diagnosis and participation in treatment.
- Preventive Dentistry: ((Third year, Second semester)) 30 hours theory

  Entrance to the fundamental basics of preventive dentistry includes an understanding of the pathogenesis and epidemiology of dental decays, periodontitis diseases and oral cancers also includes research into patterns of fluoride varnish application and of the dental pit and fissures sealant, oral physiotherapy, nutritional quality and oral cancers diagnosis and prevention.
- Public Health, History of Medicine and Ethics of Dental Practice: ((Third year, First semester)) 30 hours theory An overview of the history of the profession and its evolution through history with an emphasis on studying the moral and legal principles that govern dentistry in the Syrian Arab Republic, and public health: The course discusses the essential basic principles of public health on a society levelby discussing the environmental health air, water, food, habitation, environment and pollution, then moves on to discuss individual health in general before emphasis on the oral health of individual, and finally gives an idea of the institutions, public and private health in Syria and their role in maintaining the health of the society.
- Ophthalmology and Otolaryngology: ((Third year, First semester)) 30hours theory

  This subject is given in coordination with the Faculty of Medicine to provide the necessary knowledge regarding this adjacent areas to the oral fossa, it studies oral anatomy and physiology of these organs and discusses the medical conditions that affect them, with an emphasis on the mutual influences between them and the oral fossa of health and disease.
- Occlusion: ((Third year, Second semester)) 30 hours theory

Series of lectures aim to explain the principles of the functional occlusion with clarification and analysis of the inclination at the normal case in order to maintain healthy occlusion patterns functionally in the context of restorative dental work or prosthodontic or orthodontic or periodontics.

- Removable Prosthodontics((Second year, Second semester)) - ((Third year, First semester)) 30 hours theory/ 60 hours practical - 30 hours theory/ 60 hours practical((Fourth year, First semester)) - ((Fourth year, Second semester)) 15 hours theory/ 30 hours practical - 30 hours theory/ 30 hours practical((Fifth year, First semester)) - ((Fifth year, Second semester))60 hours practical - 60 hours practical

  Most of the theory and laboratorial aspects related to removable prosthodontics are covered in second and third years, followed by clinical section in the fourth and fifth years, in which theory and clinical discussion aspects related to diagnosis of partial and complete edentulous arch cases, as well as, developing a suitable plan of treatment and designing the desired prosthodontic and manufacturing it in a form that preserves the soft and hard oral tissues.
- Periodontics ((Fourth year, Second semester)) - ((Fifth year, First semester))30 hours theory/ 60 hours practical - 60 hours practical

  The theory section looks into in the clinical and microscopic manifestations of normal and pathological gums and periodontics also discusses the various factors leading to the onset of the disease or aggravation or modify its track, and discusses the basics of the diagnosis and handling of periodontal cases including the basics and techniques of surgical periodontal. While the clinical section aims over two semesters to filter practical basics of periodontal treatment of diagnosis, treatment plan, preventive procedures, scaling, root planing and gum cutting with the assignment of complex cases for graduate students and assist them in surgery when indicated for medical treatment.
- Endodontics ((Fourth year, First semester)) - ((Fourth year, Second semester)) 15 hours theory/ 30 hours practical - 15 hours theory/ 30 hours practical ((Fifth year, First semester)) - ((Fifth year, Second semester)) 60 hours practical - 60 hours practical

  The theory section provides the student with a clear understanding of the vital basics of endodontic and apex lesions by emphasis on the link between the clinical signs and symptoms and the pathological tissues that demonstrate these phenomena, and on identifying the warning from rating the endodontic, periodontics and systematic prosthodontic factors and on providing appropriate treatment for the case in question the study is to form a nucleus of expertise in medical treatment of the student which is supported by laboratorial work and expanded in the fifth year by clinical practice through the diagnosis and treatment of medical endodontic and apex conditions that require endodontic intervention.
- Paediatric Dentistry((Fourth year, Second semester)) - ((Fifth year, First semester)) 30 hours theory/ 30 hours practical - 60 hours practical

  The subject discusses oral health problems during the growth and development of facial and oral structures, and the principles of comprehensive dental care for children and young people and looks at the patients management, restorative and preventive procedures, treatment of traumatic dental injuries and orthodontic treatments with limited mobility and seeks to explain the dental procedures relating to the growth of the chewing oral system and there is special emphasis on research on research management how to treat children with systematic lesions and children with disabilities.
- Oral Diseases ((Fourth year, First semester))-((Fourth year, Second semester))15 hours theory/ 30 hours practical - 15 hours theory/ 30 hours practical

  This subject aims through theoretical lectures and clinical sessions to clarify the essential basics for stomatology, diagnosis of its diseases and their effects on the comprehensive treatment plan for the patient with a particular focus on the diagnosis and management of patients with systemic diseases in the context of the dental procedures that had been done to them - Forensic Dentistry.
- Orthodontics ((Fourth year, First semester)) - ((Fifth year, Second semester)) 60 hours theory/ 60 hours practical - 60 hours practical

  The fourth year course (theory and laboratory) aims to provide the maximum amount of theory and laboratorial background for students on subject of facial oral growth and development and orthodontic diagnostic methods and mechanical vital basics for the orthodontic movement, and the limited preventive, predictive and corrective procedures which can be taken in a general practice clinic. The practical laboratorial section emphasizes on developing procedures for the design and manufacturing of removable prosthodontics. Whereas in fifth year, the emphasis is on the development of clinical skills in diagnosis and setting treatment plans and treatment of selected cases of malocclusion in children and adults using removable prosthodontics.
- Anaesthesia and Extraction ((Fourth year, First semester))- ((Fourth year, Second semester)) 30 hours theory/ 60 hours practical - 15 hours theory/ 60 hours practical

((Fifth year, First semester))- ((Fifth year, Second semester)) 60 hours practical - 60 hours practical

The course lectures in theory for the fourth year are divided into two sections: The first section researches at anaesthesia and is a detailed research about methods of local anaesthesia in dentistry and is reviewing the anatomy of head and neck from the Anaesthesiology point of view discussing how to manage emergency cases, explaining in detail drugs used in local anaesthesia and its different techniques, the lectures in theory are supported by clinical sessions in which practice of the techniques is takes place. Where the second section looks at teeth extraction and provides and comprehensive study of the tools and methods used in dental extraction after discussing local and general indications and contraindications and methods of prevention or management of the complications the clinical sessions in the clinic are considered as the key element in this subject, as students practice extraction procedures under the supervision of the Department of Oral and Maxillofacial Surgery. In the fifth year students continue exercising their clinical aesthesia and

extraction with the possibility to carry out a minor oral surgery and watch some complex oral surgical procedures.

- Oral and Maxillofacial Surgery: ((Fifth year, Second semester)) 30 hours theory/ 30 hours practical

The course discusses initially general anaesthesia then it moves on to study Oral and Maxillofacial Surgery basics and techniques in order to develop a foundation of professional knowledge and surgical skills for the students that enables them to diagnose and manage problems of oral surgery in the context of the general dental practice, it examines the minor oral surgery techniques extractions–Apicoectomy and looks at major oral surgeries trauma - cyst–tumours - Temporomandibular Joint TMJ - Cleft lip and palate.

Course Description

First Year

First semester

1. Arabic Language	2Theory	0 Practical
2. National Socialist Education	4Theory	0 Practical

Islamic Arabic culture, Arab nation unity, Arab national, Palestinian case, Zionist Arab conflict, Arabic socialistic recreation party, Corrective evolution motion and national struggle, Arabic national safety, International variables, Development in Bashar Alasad speech.

3. Medical Physics & Biophysics	2Theory	2 Practical

Physics:This course includes applications of physics to medicine and medical instrumentation. Topics include bio- mechanics, sound and hearing, pressure and motion of fluids, heat and temperature, electricity and magnetism in the body, optics and the eye, biological effects of light, use of ionizing radiation in diagnosis and therapy, radiation safety and medical instrumentation, x-ray properties and applications, laser and its usage in dentistry.Biophysics: Vital tissue classification, tissue structure, organic phase, inorganic phase, classification mechanism, dental caries, acid etching for composite fixation, crystal science, solution and osmotic pressure, surface outstanding, substance and radiation, how to read x-ray films, continues current and its application in dentistry.

4. General Chemistry	2Theory	2 Practical

This course provides dental students with basic knowledge in inorganic general chemistry including properties of solutions, kinetics, acids and bases. Laboratory sessions serve as an introduction to the principles of qualitative analysis including ionic equilibrium, ionic separation and the identification of selected simple and complex ions.

5. CellBiology	4Theory	4 Practical

This is an elementary course in general biology and biology of the cell designed for medical, dental and pharmacy students in order to provide an understanding of basic biological principles and cell biology. The bulk of the course will concentrate on the understanding of the basic biology of living organisms especially humans and the interactions that lead to life as well as introducing structure, function and function / structure relationship of the unit of life the cell as well as the tissues, organs and systems, stages of fetus growth.

6. Psychology and Statistics	2Theory	0 Practical

Psychology, its definition, fields and ways. The emotional, behaviour, cognitive and social development for individual since birth until twelve years. Personal communication procedure and the importance of language. Pain, its mechanism, psychology and ways to deal with it. Managing children with behaviour problems in dental clinic. Mental disorders (pathological fear). Cognitive and behavioural ways in treating anxiety of dental treatment. Patients' problem of not committing with dentist's oral treatment recommendations. Bad oral behaviours treatment like soaking thumb, biting lip, teeth bruxism. Statistics: The subject aims to provide student with essential necessary knowledge to explain and read medical articles and analysing statistics constants.

Weekly Hours	16Theory	8 Practical

Total: 24

First Year

Second semester

1. Arabic Language (1)	2Theory	0 Practical
2. Foreign Language (1)	4Theory	0 Practical

3. Microbiology and Parasitology General and Oral	2Theory	2 Practical

Introduction to the science of Microbiology and its development, General medical microbiology, factors of bacterial infectious diseases, immunity and acquired immunity, diagnosis of bacterial infectious diseases, epidemiology of infectious diseases, sterilization antisepsis, antibiotics, medial bacteria, general medical virology, medical viruses, general parasitology, medical parasites, general mycology, medical mycosis, oral microbes and oral immunity mechanism.

Microbiology subject: includes four parts; Bacteriology, Parasitology, Virology, Mycology and disease caused by them, Immunity or resistance against them and this all to prepare students to study infectious disease.

- Bacteriology:studies two main groups of bacteria: gram positive and gram negative, structure of cytoderm (cell wall) in both of them, differences between prokaryotic and eukaryotic cells in terms of sensitivity to antibiotics.
- Virology: viruses divided into two main groups: 1. DNA viruses are composed of nucleic acids and proteins and have the ability to replicate in cenocytes, zooblast and germ cells.
  2. RNA- the pattern of genome: it studies the changes that occur in the cell especially antigenicity and directing cell metabolism for the production new viral particles, host response to viruses that causes symptoms of viral diseases including HIV and AIDS.
- Parasitology:studies parasites that get their food intruding on the organisms, and the host organisms problems of this intrusion. Parasites types: 1. According to their nutrition:
- obligate parasites and facultative parasites.2. Ectoparasites and endoparasites. 3. Harmful and harmless parasites. 4. Parasites of medical importance: Variables and trypanosomatidae, protozoa, multicellular worms and insects.
- Mycology: studies mycosis which are organisms don't have chlorophyll, but have a cellwall and filamentousstructure, and they produce spores that can cause many diseases to the human race. The subject studies four types of myco-diseases: 1. Hyperergy: an allergic reaction to mycosis and spores. 2. Myctesimus: poisoning caused by eating mycosis contaminated food. 3. Mushroom poisoning. 4. Infection
- Immunology: studies how to protect body from strange large particles and micro-organisms and the reactions towards them in the first defence line and killing them without need for antibodies. Also includes autoimmune towards body's cells in immunity against tumours and studies how immune system cells interact with each other by particles represent signals that help in organising the immune reaction, this signals might be proteins like lymphocytes and cytokines.
  The laboratory session focuses on characteristics of microbes and their production, biochemical interactions in immune reaction and cells stimulation in immunity system.

4. Dental Anatomy (Drawing and Carving)	0 Theory	4 Practical

A study of the structure form of each tooth (temporary and permanent), and their mutual relations within the dental arch and between the upper and lower dental arches, with an explanation of their role in maintaining the periodontal tissues. Practical and manual skills for students are developed by lab sessions for dental drawing and carving.

5. Anatomy and Embryology General and Oral	5 Theory	2 Practical
A study of anatomy of head and neck in details, through lectures in theory and lab sessions emphasizing on regional anatomy of special importance for dentistry. It studies as well the embryonic development and the development of craniofacial tissues in human.		

6. Biochemistry General and Oral	3 Theory	2 Practical
This course is designed to provide an understanding of the structure of the chemical components of living matter. The course will cover the four major classes of biological molecules: proteins, carbohydrates, lipids, and nucleic acids. Emphasis will be on the chemical properties and three-dimensional structure of these molecules in relationship to their biological function. Principles of bioenergetics, the mechanisms of enzyme action, enzyme kinetics, and the control mechanisms which regulate enzymatic reactions will be discussed. Both theoretical and practical sessions, will examine the metabolic pathways and regulatory processes occurring in biological systems and to develop an understanding of some of the sophisticated levels of control within and between metabolic pathways.		

Weekly Hours	16Theory	10 Practical
Total: 26		

Second Year

First semester

1. Arabic Language (2)	2Theory	0 Practical
2. Foreign Language (2)	4Theory	0 Practical

3. Fixed prosthodontics (Crowns and bridges) (1)	2Theory	6 Practical

This course includes:

1. Definitions:
- Introduction to Fixed Prosthodontics.
- Types of crowns.
- Purposes of crown construction.
- Steps in crown construction.
- Components of bridge.

2. Biomechanical principles of tooth preparation:
- Preservation of sound tooth structure.
- Retention and resistance form.
- Marginal integrity.
- Structural durability.

3. Full metal crown:
- Indications, contra-indications, advantages, disadvantages, steps of preparation

4. Complete ceramic crown (Porcelain Jacket Crown):
- Indications, contra-indications, advantages, disadvantages, and steps of preparation.

5. Partial veneer crown (three-quarter crown):
- Indications, contra-indications, advantages, disadvantages, steps of preparation.

6. Post crown:
- Indications, contra-indications, factors to be considered in the assessment of a tooth for post crown, components of post crown, types of post crown, steps of preparation.

4. General Histology	2Theory	2 Practical

The course gives an introduction to the subject focusing on the morphological and descriptive features of the cell in human body, cell organelles, differentiation and maturation of cells, cells and extracellular environment. Furthermore the course gives adequate study about the main tissue types in human body (epithelial, supporting, blood, bone, muscle, and nervous tissues), their embryological origin, architecture, and cellular morphology. Histophysiology of each tissue type is taken in consideration also. Some organs and systems are subject of study based on fundamental knowledge of the previous material such as blood cells, skin,endocrine system, circulatory system, heart, lymphatic system, immune system, digestive system, respiratory system and urinary system.

5. Physiology and Nutrition General and Oral	4 Theory	2 Practical

Upon completion of this course the student is expected to be able to understand the basic concepts of physiology which include: 1. An introductory of body fluids, electrolyte and acid-base balance.2. An introductory overview of some basic principles and mechanisms applicable to the function of all individual body systems:

- Muscular system: anatomy, muscle nervous focal, slide fibre theory, muscle spasm, muscle metabolism, moving units.
- Respiratory system: structure, pulmonary ventilation, gas exchange, transport of gases in blood, control of breath, pulmonary function test.
- Cardiovascular system;
- Heart: anatomy, heart conductive system, potential act of heart muscle, cardiac cycle, the results of heart and venous return.
- Blood vessels: structure and function, blood pressure measuring and affecting factors and regulations, self-organizing, dynamitecapillary vessels, blood circulation within tooth.
- Urinary system:anatomy, glomerular filtration, initial processing of filtrate, renal clearance, diuretics, urination.
- Digestive system: mouth and oesophagus: saliva, salivary glands, mastication, swallowing, stomach, liver, endocrine glands, pancreas, small and large intestines, digesting and absorbing of; carbohydrates, proteins, and fat, defecation, diarrhea, constipation and peptic ulcer.
- Nervous system:functional organizing of nervous system, autonomic nervous system, neurons, comfort membrane potential, action potential, synaptic transportation, synaptic integration.
- Vectors and synaptic receptors; effective and reflective, pain physiology, sensory ways, motion ways, physiology and pathological physiology of cranial nerves, speech, physiology of the neural occlusion.
- Endocrine system:introduction, hormones, pituitary gland, growth hormone deficiency, excessive secretion of growth hormone
- Thyroid gland: hypothyroidism, hyperthyroidism, physiological effects of calcitonin.
- Parathyroid: physiology of bone and teeth, physiology effects of cholesterol, calcium metabolism, hypercalcaemia, hypocalcaemia.
- Endocrine functions of the pancreas: biological effects of insulin and glucagon, pathophysiology of the endocrine pancreas, suprarenal gland, medulla of suprarenal gland, endocrine functions of the other organs.
- Reproduction system: male reproduction system, female reproduction system, maturity.

This course provides students with basic aspects of medical physiologySpecial emphasis will be on the neuronal and hormonal control to the related organs, and on body responses and adaptation to various stress conditions and physiological disorders

6. Pharmacology General and Oral	2 Theory	0 Practical

1. Section 1: Introduction to Pharmacology: an overview that enables students to understand the basic principles of pharmacokinetics and pharmacodynamics. It provides students with the knowledge of the mechanism of action, clinically significant side effects, drug-drug interaction, and immune diseases.
2. Section 2: General Pharmacology for dentists:
   - Anti-infectious agents, anti-bacterial: Penicillin, cephalosporin, macrolides, tetracycline, clindamycin, synthetic drug.
   - Antimycotic: Pollens
   - Antiviral, antiparasitic.
   - Analgesics: Central analgesics (opiates), peripheral analgesics (antibiotics).
   - Anti-inflammatory, antibleeding.
   - Local anaesthetics, general anaesthetics and sedation.
   - General drugs and dentistry: Cardiovascular drugs, central nervous system drugs, hormones.
   - Drugs for special purpose: Muscles relaxant, steroids, drugs effect on salivary secretion.
   - Medicinal preparation for special patients in dental clinic: Disabled, pregnancardiac and blood pressure patient, diabetics.
3. Section 3: Oral and dental pharmacology
   - Topical application of drugs for treating oral mucosa lesions: Antibiotics, antimitotic, painkiller, oral antiseptic, customised material for the rehabilitation of damaged tissues.
   - Enamel drugs: Topical fluoride, fluoride given systemically.
   - Dentin drugs: Temporary restorative materials and their side effects, anti-sensitivity drugs, oral and dental antiseptics.
   - Periodontics treatment drugs: Antibiotics within gingival pocket, caustic and antibleeding material, anti-

inflammatory, gingival retraction materials • Endodontic treatment drugs: pulpal pain relievers, antiseptics, endodontic fixing and killing materials. • Alveolar bone drugs: Induced bone formation drugs applied around dental implants.

7. Restorative Dental Material(I)	1 Theory	2 Practical
This course deals with physical and mechanical properties of dental materials, biocompatibility of impression materials, detailed study of various restorative materials, restorative resin and recent advances in composite resins as well as recent bonding developments. It also includes detailed description of tarnish and corrosion, dental amalgam, inlay wax, dental cements for restoration and pulp protection (luting, liners. bases) and cavity varnishes. Advances in restorative materials and dental ceramics, finishing and polishing materials. Dental burs -design and mechanics of cutting -other modalities of tooth preparation will also be incorporated.		

Weekly Hours	17Theory	12 Practical
Total: 29		

Second Year

Second semester

1. Arabic Language (2)	2Theory	0 Practical
2. National Socialistic Education (2)	4Theory	0 Practical

3. Restorative Dentistry (1)	2Theory	6 Practical

This Course is:

1. Theory section studies:
   - Non carious tooth defects, Amalgam and Composite restorations, occlusion as related to conservative dentistry.
   - Using matrices in conservative dentistry.
   - Dental caries - epidemiology, recent concept of etiological factors, pathophysiology, histopathology and diagnosis will also be included.
2. Laboratory sessions include:
   students training on cavity preparation and use of dental cements for restorations and pulp protection (luting, liners. bases) in addition to using dental burs and other modalities of tooth preparation in laboratory (Phantom Head) sessions where tooth preparation (class I,II,V) and filling with amalgam and composite will be completed on a number of extracted teeth.

4. Oral Histology	2Theory	4 Practical

This course presents the microscopic structure of cells, tissues and organs emphasizing the correlation between structure and function. The course deals specifically with the oral cavity and the structures relevant to the teeth and their surroundings:The development of the oral cavity, the development of teeth, enamel, dentin, dental pulp, cement, alveolar bone periodontal ligament, oral mucous lining, mastication oral mucosa,the oral mucous membrane, the salivary glandsandTMJ.

5. Partial Removable Prosthodontics (1)	2Theory	4 Practical

The course is designed to provide the students with knowledge of the principles, clinical aspects, laboratory steps and practice of partial dentures including:

- Anatomy of periodontal tissues.
- Components of a removable partial denture.
- Principles of removable partial denture design
- Mouth preparation and master cast.
- Impression materials and procedures for removable partial dentures.
- Preliminary jaw relation.
- Laboratory procedures.
- Fitting the framework.
- Try-in of the partial denture.
- Completion of the partial denture.
- Inserting the removable partial denture.
- Temporary acrylic partial dentures.
- Immediate removable partial denture