



Course Curriculum for the Master of Clinical Dentistry Degree/ Orthodontics

Course Curriculum for the Master of Clinical Dentistry Degree /Orthodontics is awarded by the Faculty of Graduate Studies at Jordan University of Science and Technology (JUST) upon the fulfillment of the following requirements:

1. Compliance with the J.U.S.T. Master Degree in Dentistry regulations approved by the Council of Deans (No. 4/2012) dated 24/1/2012.
2. Successful completion of (45) credit hours.

First: Compulsory Requirements (32) hours as follows:

A. Theoretical Requirements (9) credit hours as follows:-

Course Code	Course Name	Credit Hours
Dent 709	Research Methodology and Biostatistics	3
Dent 794	Current Topics in Orthodontics	2
Dent 796	Advanced Orthodontics 1	2
Dent 797	Advanced Orthodontics 2	2

B. Clinical Requirements (23) credit hours as follows:-

Course Code	Course Name	Credit Hours
Dent 791L	Laboratory Training in Orthodontics	1
Dent 791A	Clinical Training in Orthodontics 1	1
Dent 791B	Clinical Training in Orthodontics 2	3
Dent 791C	Clinical Training in Orthodontics 3	3
Dent 792A	Clinical Training in Orthodontics 4	3
Dent 792B	Clinical Training in Orthodontics 5	3
Dent 792C	Clinical Training in Orthodontics 6	3
Dent 793A	Clinical Training in Orthodontics 7	3
Dent 793B	Clinical Training in Orthodontics 8	3
Dent 793C*	Clinical Training in Orthodontics 9	0

* Pass or Fail

Second: Elective Requirements (4) credit hours as follows:

Course Code	Course Name	Credit Hours
Dent 702	Advanced Oral and Maxillofacial Radiology	1
Dent 703	Advanced Pharmacology in Dentistry	1
Dent 705	Occlusion and Temporomandibular Joint	1
Dent 706	Dental Implantology	2
Dent 738	Growth and Development	2
Dent 739	Oral and Dental Traumatology	1
Dent 778	Medical Genetics	2
Dent 788	Medical Problems in Dentistry	2

Third: Master Thesis (Dent 799): Total of 9 credit hours as follows:

Course Code	Course Name	Credit Hours
Dent 799 A	Master Thesis	9
Dent 799 B	Master Thesis	6
Dent 799 C	Master Thesis	3
Dent 799 D	Master Thesis	0

Course Description

Orthodontics

Dent 702 Advanced Oral and Maxillofacial Radiology: (1 Credit Hour)

This course consists of a series of lectures that deal with the fundamental of the production and interaction of x-rays. This is followed by the basics of radiation biology and radiation protection, production of the radiograph (physics, chemistry and technique), vision and perception. Additionally, the appearance of normal and pathologic tissues and structures on the radiographs will be covered. The various imaging methods of investigation will be also discussed such as Cone Beam CT and MRI, ...etc.

Dent 703 Advanced pharmacology in Dentistry: (1 Credit Hour)

This course provides students with information on pharmaceutical agents used in dentistry and their application.

Dent 705 Occlusion and Temporomandibular Joint: (1 Credit Hour)

This course is designed to provide students with a clear picture of how the masticatory system functions and the role of a harmonious occlusion in maintaining the health of this system. Also it aims to provide students with the basic knowledge of anatomy of the masticatory system, mandibular movement, determinants of occlusion and occlusal schemes. Occlusal diseases and masticatory system dysfunctions will also be covered in this course to help students diagnose and treat patients who suffer from these diseases.

Dent 706 Dental Implantology: (2 Credit Hours)

The course includes lectures on all aspect of dental implantology including surgical and prosthetic aspects. It will cover history of implantology, dental materials included in dental implants, the basic science of osseointegration, the surgical, prosthetic and restorative considerations for the partially and fully edentulous patient, and the occlusal considerations of implant treatment.

Dent 709 Research Methodology and Biostatistics (3 Credit Hours)

This course describes the scientific methods of conducting research and study design. In addition, it aids student in planning clinical and laboratory studies as well as the evaluation of other studies. This course will include collection of data, the use of statistical analysis in the area of the scientific research to achieve sound scientific conclusions.

Dent 738 Growth and Development: (2 Credit Hours)

This course covers in depth all aspects related to physical growth, as well as emotional, cognitive, and psychological development of children from conception till adulthood. Studying embryology with an emphasis on development of dentofacial structures is an integral component of this course. It also covers aspects related to development of occlusion and dentofacial structures.

In addition to studying preventive and interceptive orthodontics and timing of orthodontic treatment as it relates to the maturity of the child.

Dent 739 Oral and Dental Traumatology: (1 Credit Hour)

This course covers all aspects related to oral, dental and maxillo-facial trauma including epidemiology, diagnosis and management of trauma as well as diagnosing and managing non-accidental injuries.

Dent 778 Medical genetics: (2 Credit Hours)

Medical genetics is concerned with the study of human biological variation and its relationship to health and disease. It encompasses mechanisms of inheritance, cytogenetics, molecular genetics and biochemical genetics as well as formal, statistical and population genetics. Students taking this course will understand the structure and function of chromosomes and genes, the patterns of inheritance, the causes and consequences of mutation, genetic variation and polymorphism, and the relationship between genotype and phenotype. Students will also be able to recognize individuals at an increased risk of having or developing a genetic disorder, or being a possible carrier of a genetic disorder, and be able to discuss these risks with their patients.

Dent 788 Medical Problems in Dentistry: (2 Credit Hours)

This course is designed to bring the student to the current knowledge on the general diseases that might dental patient suffer from and their signs in the oral and maxillofacial region and their effect on dental and oral treatment.

Dent 791L Laboratory Training in Orthodontics: (1 Credit Hour)

This course provides the students with the manual skills necessary for the fabrication of space maintainers, removable, and functional appliances in the lab. Additionally they will learn all the needed skills to do first, second and third order bends that might be needed during treatment with fixed appliance therapy.

Dent 791A Clinical Training in Orthodontics 1: (1 Credit Hour)

This course is a clinical course whereby students provide full comprehensive examination of orthodontic patients and record taking, including models photographs, and radiographs. The candidate should learn during this course cephalometric analysis and interpretation. As well as analyzing photographs and stone models of patient's teeth.

In this course students also formulate treatment plans and carry out treatment of patients with simple Class I, II and III malocclusion using removable, functional and fixed orthodontic appliances.

Dent 791B Clinical Training in Orthodontics 2: (3 Credit Hours)

In this courses students should follow the progress of their patients and monitor the outcome of their treatment. More complicated cases should be started during this course including vertical and transverse problems.

Dent 791C Clinical Training in Orthodontics 3: (3 Credit Hours)

In this course students should follow the progress of their patients. During This course the students will be expose to multidisciplinary approach of treatment such as combined orthodontic- restorative or orthodontic- periodontic treatments.

Dent 792A,B,C Clinical Training in Orthodontics 4, 5, 6: (3 Credit Hours each)

In this course students should follow the progress of their patients and will start treatment of patients with cleft lip and palate and patients need orthognathic surgical treatment.

Dent 793A,B,C Clinical Training in Orthodontics 7, 8, 9: (3, 3, 0 Credit Hours, respectively)

In these courses students should follow the progress of their patients and monitor the outcome of their treatment. They should finish treatment and obtain post-treatment record. Evaluation of treatment results should be made through the proper analysis of models and radiographs.

Dent 794 Current Topics in Orthodontics: (2 Credit Hours)

Presents the evaluation of current information in orthodontics and related subjects in a journal club format. It includes special emphasis on research methodology and the contribution of current research to advances in orthodontics. Students will also learn how to perform critical reading of literature.

Dent 796 Advanced Orthodontics 1: (2 Credit Hours)

Lecture-seminar sequence dealing with interpretation and application of orthodontic principles and concepts; principles of biologic reactions to application of orthodontic forces, mechanics of tooth movements, methods of diagnosis, analysis, and treatment planning of malocclusion; analysis of methods and theoretical principles used in the treatment of malocclusion.

Dent 797 Advanced Orthodontics 2: (2 Credit Hours)

Lecture-seminar sequence dealing with management of patients with complex malocclusion who need multidisciplinary approach. An insight will be gained into specific evaluation and treatment modalities of each discipline.

Dent 799 Master Thesis: (9 Credit Hours)

A topic for the thesis will be chosen for the student where she/he is expected to work under the supervision of one academic staff from the university. The student is expected to conduct and write up the thesis and defense his work at the end of his study.

Study Plan Orthodontics

First Year

First semester:

Course Code	Course Name	Credit Hours
Dent 709	Research Methodology and Biostatistics	3
Dent 791A	Clinical Training in Orthodontics 1	1
Dent 791L	Laboratory Training in Orthodontics	1
Dent 796	Advanced Orthodontics 1	2
	Total	7

Second semester:

Course Code	Course Name	Credit Hours
Dent	Elective	1
Dent 791B	Clinical Training in Orthodontics 2	3
Dent 797	Advanced Orthodontics 2	2
	Total	6

Third semester:

Course Code	Course Name	Credit Hours
Dent 791C	Clinical Training in Orthodontics 3	3
	Total	3

Second Year

First semester:

Course Code	Course Name	Credit Hours
Dent	Elective	2
Dent 792A	Clinical Training in Orthodontics 4	3
Dent 794	Current Topics in Orthodontics	2
	Total	7

Second semester:

Course Code	Course Name	Credit Hours
Dent	Elective	1
Dent 792B	Clinical Training in Orthodontics 5	3
Dent 799C	Master Thesis	3
	Total	7

Third semester:

Course Code	Course Name	Credit Hours
Dent 792C	Clinical Training in Orthodontics 6	3
Dent 799C	Master Thesis	3
	Total	6

Third Year

First semester:

Course Code	Course Name	Credit Hours
Dent 793A	Clinical Training in Orthodontics 7	3
Dent 799C	Master Thesis	3
	Total	6

Second semester:

Course Code	Course Name	Credit Hours
Dent 793B	Clinical Training in Orthodontics 8	3
Dent 799D	Master Thesis	0
	Total	3

Third semester:

Course Code	Course Name	Credit Hours
Dent 793C	Clinical Training in Orthodontics 9	0
Dent 799D	Master Thesis	0
	Total	0