



## Course Curriculum for the Master of Clinical Dentistry Degree /Endodontics

Course Curriculum for the Master of Clinical Dentistry Degree /Endodontics 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 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 744	Current Topics in Endodontics	2
Dent 745	Advanced Endodontics 1	2
Dent 746	Advanced Endodontics 2	2

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

Course Code	Course Name	Credit Hours
Dent 741L	Laboratory Training in Endodontics	1
Dent 741A	Clinical Training in Endodontics 1	1
Dent 741B	Clinical Training in Endodontics 2	3
Dent 741C	Clinical Training in Endodontics 3	3
Dent 742A	Clinical Training in Endodontics 4	3
Dent 742B	Clinical Training in Endodontics 5	3
Dent 742C	Clinical Training in Endodontics 6	3
Dent 743A	Clinical Training in Endodontics 7	3
Dent 743B	Clinical Training in Endodontics 8	3
Dent 743C*	Clinical Training in Endodontics 9	0

\* Pass/Fail

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

<b>Course Code</b>	<b>Course Name</b>	<b>Credit Hours</b>
Dent 702	Advanced Oral and Maxillofacial Radiology	1
Dent 703	Advanced Pharmacology in Dentistry	1
Dent 704	Advanced Microbiology and Immunology	2
Dent 705	Occlusion and Temporomandibular Joint	1
Dent 739	Oral and Dental Traumatology	1
Dent 747	Biology of Dentine Pulp Complex	2
Dent 760	Advanced Dental Materials in Endodontics	1
Dent 788	Medical Problems in Dentistry	2

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

<b>Course Code</b>	<b>Course Name</b>	<b>Credit Hours</b>
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**

### **Endodontics**

#### **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 applications.

#### **Dent 704 Advanced Microbiology and Immunology: (2 Credit Hours)**

This course provides in depth information about the microbiology of oral, periodontal and endodontic diseases and the immunological responses associated with these diseases.

#### **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 709 Research Methodology and Biostatistics: (3 Credit Hours)**

This course describes the scientific methods of conducting research and study design. In addition, it aids students in planning clinical and laboratory studies as well as the critical evaluation of scientific 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 739 Oral and Dental Traumatology: (1 Credit Hour)**

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

#### **Dent 741L Laboratory Training in Endodontics: (1 Credit Hour)**

This is a practical laboratory course designed to reintroduce the basic knowledge in endodontic procedures including access preparation, radiographic techniques, cleaning and shaping and obturation. It also includes an introduction to current techniques of root canal preparation and obturation.

**Dent 741A Clinical Training in Endodontics 1: (1 Credit Hour)**

This is a clinical course that includes examination, diagnosis and treatment of patients requiring conventional root canal therapy and emergency endodontics using classical and contemporary methods of treatment.

**Dent 741B Clinical Training in Endodontics 2: (3 Credit Hours)**

This is an advanced clinical course that includes examination, diagnosis and management of patients requiring wide range of endodontic therapy. It also includes follow up for the patients treated in clinical training I.

**Dent 741C Clinical Training in Endodontics 3: (3 Credit Hours)**

This is an advanced clinical course that includes treatment of more complex endodontic cases appropriate to the graduate students' stage of training in a structured approach including treatment of failed endodontic cases through surgical and non-surgical therapy; using new techniques of RCT including various rotary NiTi instruments, ultrasonics and modern obturation techniques.

**Dent 742 A, B, C Clinical Training in Endodontics 4,5,6: (3 Credit Hours each)**

These courses are a continuation of the previous clinical courses with yet more advanced clinical cases including cases with challenging diagnosis, endodontic emergencies and management of flare ups, vital pulp therapy, non-vital bleaching, trauma cases, root resorption cases and endodontic treatment in medically compromised patients and follow up cases from the previous year.

**Dent 743 A, B, C Clinical Training in Endodontics 7 – 9: (3, 3, 0 Credit Hours, respectively)**

These courses are designed to reinforce the competency and confidence of graduate students treating various endodontic cases, in addition to reinforcing their ability to make judgments to build proper diagnosis, treatment planning and assessment of treatment outcomes. This will eventually prepare the graduate student to pursue his/her career as an endodontic specialist. At the end of these courses the students are expected to submit a log book including the treatment of a specified number of comprehensive cases including their management and follow up.

**Dent 744 Current Topics in Endodontics: (2 Credit Hours)**

Students in this course present the evaluation of current information in endodontics and related disciplines in a journal club format. It includes special emphasis on research methodology and the contribution of current research to advances in endodontics. Through this course the students will also learn how to explore and criticize dental literature from all sources available.

**Dent 745 Advanced Endodontics 1: (2 Credit Hours)**

This is a theoretical course consisting of a series of lectures designed to introduce the graduate students to the major topics in endodontics prior to beginning patient care. Furthermore, these lectures will cover a comprehensive revision of the basics in endodontics including diagnosis and treatment, in addition to lectures on advanced topics of clinical relevance and its relation to dentine-pulp complex.

**Dent 746 Advanced Endodontics 2: (2 Credit Hours)**

This course is a theoretical one consisting of a series of lectures in advanced endodontic topics that includes treatment of different injuries of the teeth, geriatric endodontics and management of procedural errors in endodontics and retreatment.

**Dent 747 Biology of Dentine Pulp Complex: (2 Credit Hours)**

This course provides a detailed description of dental pulp development, composition, structure, function and its interaction with other tissues during health and disease. It also covers the structure of dentine, chemical and physical properties and its relation with dental pulp. Detailed description of pulpal response to tooth injury and infection will be provided. In addition, pulpal inflammation is covered thoroughly. Detailed review on the causes and mechanisms of dental pain is also covered in this course.

**Dent 760 Advanced Dental Materials in Endodontics: (1 Credit Hour)**

This theoretical course aims at providing the students with the basic science of materials used in endodontics. The course will discuss the composition, handling characteristics, mechanical and physical properties of these materials and how it affects their use in practice. It also will provide a perspective on the advancements in newly developed materials or improvements to those currently in use.

**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 the dental patient might suffer from and their signs in the oral and maxillofacial region and their effect on dental and oral treatment.

**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 Endodontics

## First Year

### First semester:

Course Code	Course Name	Credit Hours
Dent 709	Research Methodology and Biostatistics	3
Dent 741A	Clinical Training in Endodontics 1	1
Dent 741L	Laboratory Training in Endodontics	1
Dent 745	Advanced Endodontics 1	2
	<b>Total</b>	<b>7</b>

### Second semester:

Course Code	Course Name	Credit Hours
Dent 741B	Clinical Training in Endodontics 2	3
Dent	Elective	2
Dent	Elective	1
	<b>Total</b>	<b>6</b>

### Third semester:

### Second semester:

Course Code	Course Name	Credit Hours
Dent 741C	Clinical Training in Endodontics 3	3
	<b>Total</b>	<b>3</b>

## Second Year

### First semester:

Course Code	Course Name	Credit Hours
Dent	Elective	1
Dent 742A	Clinical Training in Endodontics 4	3
Dent 746	Advanced Endodontics 2	2
	<b>Total</b>	<b>6</b>

### Second semester:

Course Code	Course Name	Credit Hours
Dent 742B	Clinical Training in Endodontics 5	3
Dent 744	Current Topics in Endodontics	2
Dent 799C	Master Thesis	3
	<b>Total</b>	<b>8</b>

### Third semester:

Course Code	Course Name	Credit Hours
Dent 742C	Clinical Training in Endodontics 6	3
Dent 799C	Master Thesis	3
	<b>Total</b>	<b>6</b>

### Third Year

#### First semester:

Course Code	Course Name	Credit Hours
Dent 743A	Clinical Training in Endodontics 7	3
Dent 799C	Master Thesis	3
	<b>Total</b>	<b>6</b>

#### Second semester:

Course Code	Course Name	Credit Hours
Dent 743B	Clinical Training in Endodontics 8	3
Dent 799D	Master Thesis	0
	<b>Total</b>	<b>3</b>

#### Third semester:

Course Code	Course Name	Credit Hours
Dent 743C	Clinical Training in Endodontics 9	0
Dent 799D	Master Thesis	0
	<b>Total</b>	<b>0</b>