Republic of Yemen

Ministry of Higher Education & Scientific Research

Emirates International University

Faculty of dentistry

Department of Conservative Dentistry

Doctor of Dental Surgery (DDS)

Course Specification of

Endodontic I (Pre-clinical)

Course No. (.....)

Review committee: Head of the Department Quality Assurance head Dean of Faculty

I. Course Identification and General Information:

1	**Course Title:**	Endodontic I (Pre-clinical)			
2	**Course Code & Number:**	----			
3	**Credit Hours:**	**Credit Hours**	**Theory Hours**		**Lab. Hours**
			Lecture	**Exercise**	
		3	2	--	2
4	**Study Level/ Semester at which this course is offered:**	3rd Level / 1st Semester			
5	**Pre –Requisite (if any):**	Dental morphology I and II , Oral histology &embryology I and II Dental, Material I and II and Oral Radiology I			
6	**Co –Requisite (if any):**	Oral Pathology I and II, Oral Radiology II and Operative dentistry I			
7	**Program (s) in which the Course is Offered:**	Doctor of Dental Surgery (DDS)			
8	**Language of Teaching the Course:**	English			
9	**Study System:**	Semester based System			
10	**Mode of Delivery:**	Full Time			
11	**Location of Teaching the Course:**	Faculty of dentistry			
12	**Prepared by:**	Dr. Basheer Hamed Hamood AL-Shameri			

II. Course Description:

Endodontics I (pre-clinical) is the first course of endodontics, which offers the student an introduction to endodontics fundamentals, patients who need endodontics treatment. The course identifies students to the descriptive pulp biology of teeth, etiology and pathogenesis of pulp disease with their signs and symptoms, the radiographic interpretation of different pulp and periapical conditions, and endodontic-periodontal interrelationship. The student will perform traditional and modern endodontic treatment on multiple natural anterior and premolars teeth in the laboratory, both handheld and mounted in blocks and dentoform. Practical work in this course help in the preceding clinical course.

III. Course Intended Learning Outcomes (CILOs) : Upon successful completion of the course, students will be able to:		Referenced PILOs Learning out of program	
A. Knowledge and Understanding:		**I, A or E**	
a1	Describe the basic principles for the theory and practice of Endodontology. Recognize pulp biology, and understand the unique structural characteristics of pulp dentin complex	**A1**	Describe the scientific basis of dentistry and the relevant biomedical and behavioral sciences which form the basis for understanding human growth, development and health.
a2	Describe the pulp pathogenesis, the routes of entry of microorganisms to the pulp and periradicular tissues. Understand the development and implications of extra-radicular infections.	**A2**	Explain the structure and function of the human body in health and disease related to the practice of dentistry.
B. Intellectual Skills:			
b1	Diagnose and assess pulp and periapical tissue conditions	**B1**	Incorporate theoretical basic biomedical, behavioral and dental sciences with the clinical signs and symptoms for appropriate understanding of disease and its management.
b2	Interpret medical history, conduct the clinical and radiographic examination, and distinguish between clinical signs and symptoms of pulpal diseases and periradicular diseases.	**B2**	Apply critical thinking and evidence-based problem solving when providing patient's care.
C. Professional and Practical Skills:			
c1	Perform endodontic treatment on multiple natural teeth, both handheld and mounted in blocks and dentoform	**C1**	Obtain and record a comprehensive history, perform an appropriate physical examination, and carry out different investigations to reach a correct diagnosis and treatment.
c2	Apply his knowledge to differentiate between different pulpal diseases and periradicular diseases.	**C2**	Detect pathological conditions related to the dental practice.

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	D. Transferable Skills:			
d1	Display appropriate attitudes by maintaining good, clean, and safe practices with proper infection control measures.		D1	Commit to continuous education, self-development and lifelong learning to remain updated with advances in dental practice.
d2	Analyze the latest information in endodontics for continuous education and self-development		D2	Use advanced information and communication technologies to enrich and diversify professional experience.

(A) Alignment of Course Intended Learning Outcomes (Knowledge and Understanding) to Teaching Strategies and Assessment Methods:

	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
a1	Describe the basic principles for the theory and practice of Endodontology. Recognize pulp biology, and understand the unique structural characteristics of pulp dentin complex	▪ Lecture ▪ Discussion	▪ Quizzes ▪ Midterm Exam ▪ Final Exam
a2	Describe the pulp pathogenesis, the routes of entry of microorganisms to the pulp and periradicular tissues. Understand the development and implications of extra-radicular infections.	▪ Lecture ▪ Discussions	▪ Quizzes ▪ Midterm Exam ▪ Final Exam

(B) Alignment of Course Intended Learning Outcomes (Intellectual Skills) to Teaching Strategies and Assessment Methods:

	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
b1	Diagnose and assess pulp and periapical tissue conditions	▪ Lecture ▪ Discussion ▪ Problem-solving ▪ Small groups work	▪ Quizzes ▪ Midterm Exam ▪ Final Exam
b2	Interpret medical history, conduct the clinical and radiographic examination, and distinguish between clinical signs and symptoms of pulpal	▪ Lecture ▪ Discussion ▪ Problem-solving ▪ Small groups work	▪ Quizzes ▪ Midterm Exam ▪ Final Exam

	diseases and periradicular diseases.		

(C) Alignment of Course Intended Learning Outcomes (Professional and Practical Skills) to Teaching Strategies and Assessment Methods:

	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
c1	Perform endodontic treatment on multiple natural teeth, both handheld and mounted in blocks and dentoform	▪ Training ▪ Problem-solving	▪ Observation ▪ Practical Exam
c2	Apply his knowledge to differentiate between different pulpal diseases and periradicular diseases.	▪ Discussion ▪ Brainstorming	▪ Observation ▪ Practical Exam

(D) Alignment of Course Intended Learning Outcomes (Transferable Skills) to Teaching Strategies and Assessment Methods:

	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
d1	Display appropriate attitudes by maintaining good, clean, and safe practice with proper infection control measures.	▪ Training ▪ Discussion	▪ Observation ▪ Practical Exam ▪ Semester Work
d2	Analyze the latest information in endodontics for continuous education and self-development	▪ Assignments ▪ Discussion	▪ Observation ▪ Practical Exam ▪ Semester Work

IV. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	**Introduction to endodontics**	– Definition of endodontics – History of endodontics – The objective of endodontic treatment – The importance of endodontics in dentistry	1	2	a1
2	**Basic mechanical**	– Mechanical phases of access cavity	2,3	4	a1

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
	concepts of modern endodontics	preparation – Manipulation of endodontic instruments – Primary Objectives in Cleaning and Shapin – Root canal Obturation Objectives			
3	**Biology of pulp**	– Early development of the pulp – Contents and Functions of the pulp – Pulp innervation & Dentin sensitivity	4,5	4	a1, b1
4	**Etiology of pulp pathology and their symptom and signs**	– describe the pulp pathogenesis – describe the routes of entry of microorganisms to the pulp and periradicular tissues. – Classify pulpal diseases	6,7	4	a2, b1, b2
5	**Midterm Exam**		8	2	a1, a2, b1, b2
6	**Radiographic interpretation of different pulp diseases**	– Type of radiographs used for endodontics – Normal dental tissue appearance in radiographic images – Endodontic Pathosis • Radiolucent Lesions • Radiopaque Lesions	9	2	a2, b1, b2
7	**Periradicular disease**	– Describe the periapical pathogenesis – Classify periapical conditions and their clinical features.	10,11	4	a2, b1, b2
8	**Endodontic and Periodontal Inter-relationship**	– Pulpal and Periodontal Tissues interrelationships – Endo-perio lesion Classification – Endo-perio lesion Management	12,13,14	6	a1, a2, b1, b2
9	**Review**	– Previous topics	15	2	a1, a2, b1, b2
10	**Final Exam**		16	2	a1, a2, b1, b2
Number of Weeks /and Units Per Semester			**16**	**32**	

B. Case Studies and Practical Aspect:

No.	Tasks/ Experiments	Week Due	Contact Hours	Learning Outcomes (CILOs)
1	Introduction of the practical endodontics	1st	2	c1, d1
2	Demo of Endodontics Practical	2nd	2	c1, c2, d1
3	Root canal treatment of maxillary and mandibular anterior tooth	3rd -8th	12	c1, c2, d1, d2
4	Root canal treatment of maxillary and mandibular premolars.	9th -14th	12	c1, c2, d1, d2
5	Practical Exam	15th	2	c1, c2, d1, d2
Number of Weeks /and Units Per Semester		15	30	

V. Teaching Strategies of the Course:

- Lectures
- Discussions
- Problem-solving
- Training
- Small groups work
- Assignments

VI. Assessment Methods of the Course:

- Quizzes
- Midterm Exam
- Final Exam
- Practical Exam
- Observation
- Semester Work

VII. Assignments:

No.	Assignments	Week Due	Mark	Aligned CILOs (symbols)

No.	Assignments	Week Due	Mark	Aligned CILOs (symbols)
1	Assignment 1: write a paper about the motion used for hand instrumentation	3rd -6th	5	b1, d1
2	Assignment 2: write a paper about using CBCT in endodontics .	9th -14th	5	b1, b2, d2
Total			10	

VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Assignments	3rd -13th	10	10 %	b1, b2, d1, d2
2	Quizzes 1 & 2	6th , 12th	10	10 %	a1, a2, b1, b2,
3	Midterm Exam	8th	20	20 %	a1, a2, b1, b2
4	Practical Exam	15th	20	20 %	c1, c2, d1, d2
5	Final Exam	16th	40	40 %	a1, a2, b1, b2
Total			100	100	

IX. Learning Resources:

1- Required Textbook(s) (maximum two):

1- Nisha Garg, Amit Garg.,2015, Textbook of Endodontics, 3th Edition, India, Jaypee Brothers Medical Publishers (P) Ltd

2- Essential References:

1- Ilan R; John I I. Ingles Endodontics, 7th Edition, Raleigh, North Carolina, PMPH USA

2- Torabinejad et al., 2016, Endodontics. Principles and practice, 6th Edition. China, Elsevier.

3- Electronic Materials and Web Sites etc.:

Websites:

1- American Association of endodontists: www.aae.org

2- Journal of Endodontics

3- Policies and guidelines of the American Academy of Pediatric Dentistry. URL:https://www.aapd.org/research/oral-health-policies--recommendations/

X. Course Policies: (Based on the Uniform Students' By law (2007)

1	**Class Attendance:** Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	**Tardiness:** A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	**Exam Attendance/Punctuality:** No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	**Assignments & Projects:** Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	**Cheating:** Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	**Forgery and Impersonation:** Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	**Other policies:** The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

Faculty of dentistry

Department of Conservative Dentistry

Program of Doctor of Dental Surgery (DDS)

Course Plan (Syllabus) of

Endodontic I (Pre-clinical)

Course No. (.....)

I. Information about Faculty Member Responsible for the Course:							
Name of Faculty Member:	Basheer Hamed Hamood Al-Shameri	**Office Hours**					
Location& Telephone No.:							
E-mail:	basheerhamed@qq.com	SAT	SUN	MON	TUE	WED	THU

II. Course Identification and General Information:

1	**Course Title:**	Endodontic I (Pre-clinical)			
2	**Course Code & Number:**	----			
3	**Credit Hours:**	**Credit Hours**	**Theory Hours**		**Lab. Hours**
			Lecture	**Exercise**	
		3	2	--	2
4	**Study Level/ Semester at which this course is offered:**	3rd Level / 1st Semester			
5	**Pre –Requisite (if any):**	Dental morphology I and II , Oral histology &embryology I and II Dental, Material I and II and Oral Radiology I			
6	**Co –Requisite (if any):**	Oral Pathology I and II, Oral Radiology II and Operative dentistry I			
7	**Program (s) in which the Course is Offered:**	Doctor of Dental Surgery (DDS)			
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dentoform. Practical work in this course help in the preceding clinical course.

IV. Course Intended Learning Outcomes (CILOs) :

Upon successful completion of the course, student will be able to:

	A. **Knowledge and Understanding:**
a1	Describe the basic principles for the theory and practice of Endodontology. Recognize pulp biology, and understand the unique structural characteristics of pulp dentin complex
a2	Describe the pulp pathogenesis, the routes of entry of microorganisms to the pulp and periradicular tissues. Understand the development and implications of extra-radicular infections.
	B. Intellectual Skills:
b1	Diagnose and assess pulp and periapical tissue conditions
b2	Interpret medical history, conduct the clinical and radiographic examination, and distinguish between clinical signs and symptoms of pulpal diseases and periradicular diseases.
	C. Professional and Practical Skills:
c1	Perform endodontic treatment on multiple natural teeth, both handheld and mounted in blocks and dentoform
c2	Apply his knowledge to differentiate between different pulpal diseases and periradicular diseases.
	D. Transferable Skills:
d1	Display appropriate attitudes by maintaining good, clean, and safe practices with proper infection control measures.
d2	Analyze the latest information in endodontics for continuous education and self-development

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	**Introduction to endodontics**	– Definition of endodontics – History of endodontics	1	2

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
		– The objective of endodontic treatment – The importance of endodontics in dentistry		
2	**Basic mechanical concepts of modern endodontics**	– Mechanical phases of access cavity preparation – Manipulation of endodontic instruments – Primary Objectives in Cleaning and Shapin – Root canal Obturation Objectives	2,3	4
3	**Biology of pulp**	– Early development of the pulp – Contents and Functions of the pulp – Pulp innervation & Dentin sensitivity	4,5	4
4	**Etiology of pulp pathology and their symptom and signs**	– describe the pulp pathogenesis – describe the routes of entry of microorganisms to the pulp and periradicular tissues. – Classify pulpal diseases	6,7	4
5	**Midterm Exam**		8	2
6	**Radiographic interpretation of different pulp diseases**	– Type of radiographs used for endodontics – Normal dental tissue appearance in radiographic images – Endodontic Pathosis • Radiolucent Lesions • Radiopaque Lesions	9	2
7	**Periradicular disease**	– Describe the periapical pathogenesis – Classify periapical conditions and their clinical features.	10,11	4
8	**Endodontic and Periodontal Inter-relationship**	– Pulpal and Periodontal Tissues interrelationships – Endo-perio lesion Classification – Endo-perio lesion Management	12,13,14	6
9	**Review**	– Previous topics	15	2

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
10	Final Exam		16	2
Number of Weeks /and Units Per Semester			16	32

B. Case Studies and Practical Aspect:

No.	Tasks/ Experiments	Week Due	Contact Hours
1	Introduction of the practical endodontics	1st	2
2	Demo of Endodontics Practical	2nd	2
3	Root canal treatment of maxillary and mandibular anterior tooth	3rd -8th	12
4	Root canal treatment of maxillary and mandibular premolars.	9th -14th	12
5	Practical Exam	15th	2
Number of Weeks /and Units Per Semester		15	30

VI. Teaching Strategies of the Course:

Lectures
Discussions
Problem-solving
Training
Small groups work

VII. Assessment Methods of the Course:

Quizzes
Midterm Exam
Final Exam
Practical Exam
Observation
Semester Work

VIII. Assignments:

No.	Assignments	Week Due	Mark
1	Assignment 1: write a paper about the motion used for hand instrumentation	3rd -6th	5
2	Assignment 2: write a paper about using CBCT in endodontics .	9th -14th	5
Total			10

IX. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
1	Assignments	3^{rd} -13^{th}	10	10 %
2	Quizzes 1 & 2	6^{th} , 12^{th}	10	10 %
3	Midterm Exam	8^{th}	20	20 %
4	Practical Exam	15^{th}	20	20 %
5	Final Exam	16^{th}	40	40 %
Total			100	100

X. Learning Resources:

1- Required Textbook(s) (maximum two):

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2- Essential References:

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Websites:

1- American Association of endodontists: www.aae.org

2- Journal of Endodontics

3- Policies and guidelines of the American Academy of Pediatric Dentistry. URL:https://www.aapd.org/research/oral-health-policies--recommendations/

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