

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
Endodontics IV (clinical)
Course No. (.....)



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Review committee:

Head of the Department

Quality Assurance head

Dean of Faculty



I. Course Identification and General Information:

1	Course Title:	Endodontics IV (clinical)			
2	Course Code & Number:	-----			
3	Credit Hours:	Credit Hours	Theory Hours		Lab. Hours
			Lecture	Exercise	
		2	1	3	--
4	Study Level/ Semester at which this course is offered:	4 rd Level / 2 nd Semester			
5	Pre –Requisite (if any):	Endodontic III (clinical)			
6	Co –Requisite (if any):	Operative dentistry IV periodontics II			
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 IV (clinical) course is the second clinical course in a series of courses in endodontics. Introduces clinical endodontics, so the students can diagnose and suggest a course of treatment for endodontics diseases, manage immature and mature teeth with pulpal pathology, recognize the procedures mishaps and their management, the bleaching of non-vital teeth after endodontics treatment, the difference between rhinosinusitis and endodontic disease, the interrelationships of endodontics and orthodontics in treatment planning, and the management considerations for the medically complex endodontic patient.

III. Course Intended Learning

Referenced PILOs

Outcomes (CILOs) : Upon successful completion of the course, students will be able to:		Learning out of program	
A. Knowledge and Understanding:		I, A or E	
a1	Describe teeth anatomical variations, and recognize the management of teeth with immature apices and anatomical variations		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	Recognize the management of tooth discoloration of non-vital teeth and iatrogenic endodontic events.		A2 Explain the structure and function of the human body in health and disease related to the practice of dentistry.
B. Intellectual Skills:			
b1	Recognize the difference between rhinosinusitis and endodontic disease, and the interrelationships of endodontics and orthodontics in treatment planning and patient treatment		B1 Incorporate theoretical basic biomedical, behavioral and dental sciences with the clinical signs and symptoms for appropriate understanding of disease and its management.
b2	Recognize the management considerations for the medically complex endodontic patient.		B2 Apply critical thinking and evidence-based problem solving when providing patient's care.
C. Professional and Practical Skills:			
c1	Perform endodontic treatment on the patient's upper and lower molar teeth,		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	Skilling diagnosis and treatment planning decision making with the consideration of the patient's health situation		C2 Detect pathological conditions related to the dental practice.
D. Transferable Skills:			

d1	Encourage teamwork skills during endodontics clinics		D3	Demonstrate leadership and teamwork skills with colleagues and other oral health team for effective delivery of oral health care.
d2	Manage time and resources.		D4	Manage time, set treatment priorities and work to prescribed time limits.

(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 teeth anatomical variations, and recognize the management of teeth with immature apices and anatomical variations	<ul style="list-style-type: none"> ▪ Lecture ▪ Discussion 	<ul style="list-style-type: none"> ▪ Quizzes ▪ Midterm Exam ▪ Final Exam
a2	Recognize the management of tooth discoloration of non-vital teeth and iatrogenic endodontic events.	<ul style="list-style-type: none"> ▪ Lecture ▪ Discussion 	<ul style="list-style-type: none"> ▪ 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	Recognize the difference between rhinosinusitis and endodontic disease, and the interrelationships of endodontics and orthodontics in treatment planning and patient treatment	<ul style="list-style-type: none"> ▪ Lecture ▪ Discussion ▪ Problem-solving ▪ Practical training 	<ul style="list-style-type: none"> ▪ Quizzes ▪ Midterm Exam ▪ Final Exam
b2	Recognize the management considerations for the medically complex endodontic patient.	<ul style="list-style-type: none"> ▪ Lecture ▪ Discussion ▪ Problem-solving ▪ Practical training 	<ul style="list-style-type: none"> ▪ Quizzes ▪ Midterm Exam ▪ Final Exam

(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	<ul style="list-style-type: none"> ▪ Practical training ▪ Oral exam

	the patient's upper and lower molar teeth,	<ul style="list-style-type: none"> ▪ Problem-solving 	<ul style="list-style-type: none"> ▪ Observation ▪ Practical Exam
c2	Skilling diagnosis and treatment planning decision making with the consideration of the patient's health situation	<ul style="list-style-type: none"> ▪ Practical training ▪ Problem-solving 	<ul style="list-style-type: none"> ▪ Oral exam ▪ 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	Encourage teamwork skills during endodontics clinics	<ul style="list-style-type: none"> ▪ Practical training ▪ Discussion ▪ Brainstorming 	<ul style="list-style-type: none"> ▪ Observation ▪ Practical Exam ▪ Semester Work
d2	Manage time and resources.	<ul style="list-style-type: none"> ▪ Practical training ▪ Discussion ▪ Brainstorming 	<ul style="list-style-type: none"> ▪ 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	Review for endodontics	<ul style="list-style-type: none"> – Previous term topics 	1	1	a1, b1
2	Endodontic Therapy in Teeth with Immature Apices	<ul style="list-style-type: none"> – Definitions – Diagnosis and case selection – Treatment planning – Vital pulp therapy for irreversible and reversible pulpitis (pulpotomy and Apexogenesis) – Therapies for necrotic pulp teeth <ul style="list-style-type: none"> • Apexification • Revascularization • Regeneration 	2,3	2	a1
3	Endodontic Therapy in Teeth with Anatomical Variations	<ul style="list-style-type: none"> – Definitions – Classification – Management 	4,5,6	3	a1, b2

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
4	Midterm Exam		7	1	a1, b1, b2
5	Bleaching Discolored Nonvital Teeth	<ul style="list-style-type: none"> - Etiology intrinsic discolorations <ul style="list-style-type: none"> • Systemic Causes • Local Causes - Treatment planning for internal bleaching 	8, 9	2	a2, b2
6	Managing Iatrogenic Endodontic Events	<ul style="list-style-type: none"> - Definitions - Management of sodium hypochlorite extrusion - Management of instrument separation - Management of ledge formation - Management of perforations - Management of root canal filling materials extrusion 	10,11	2	a2, b2
7	Rhinosinusitis and Endodontic Disease	<ul style="list-style-type: none"> - Definitions - Anatomy and functions of the paranasal sinuses - Etiology, symptoms of rhinosinusitis - Diagnosis and treatment 	12	1	a1, b1
8	Interrelationships of Endodontics and Orthodontics in Treatment Planning and Patient Treatment	<ul style="list-style-type: none"> - Reasons for knowing the relationships between endodontics and orthodontics - Pulpal injury that may occur during orthodontics treatment and their management 	13	1	a1, b1, b2
9	Management Considerations for the Medically Complex Endodontic Patient	<ul style="list-style-type: none"> - Systemic health assessment of the endodontic patient - Management considerations for the common medical findings that may influence endodontic treatment planning: <ul style="list-style-type: none"> • Allergies 	14,15	2	a1, a2, b2

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
		<ul style="list-style-type: none"> • Pregnancy • Cardiovascular disease • Hypertension • Arrhythmias and Cardiac Pacemakers • Heart Murmurs and Valvular Disease • Ischemic Heart Disease • Heart Failure • Diabetes • Viral Infections • Anticoagulant therapy and bleeding disorders • Pulmonary disorders • Cerebrovascular accident • Renal disease and dialysis • Oral cancer • Liver disease • Adrenal suppression and long-term steroid use • Bone marrow and solid organ transplantation • Antiresorptive agent-induced osteonecrosis of the jaw (ARONJ) 			
10	Final Exam		16	1	a1, a2, b1, b2
Number of Weeks /and Units Per Semester			16	16	

B. Case Studies and Practical Aspect:

No.	Tasks/ Experiments	Week Due	Contact Hours	Learning Outcomes (CILOs)
1	<ul style="list-style-type: none"> - History, examination, diagnosis, treatment plan, and record-keeping - Root canal treatment of single canal tooth (using rotary technique) - Root canal treatment of maxillary and mandibular premolars. (using hand technique) - Root canal treatment of maxillary molars. (using hand technique) - Root canal treatment of mandibular molars. (using hand technique) 	1 st -14 th	42	c1, c2, d1, d2
2	Practical Exam	15 th	3	c1, c2, d1, d2
Number of Weeks /and Units Per Semester		15	45	

V. Teaching Strategies of the Course:

- Lectures
- Discussions
- Brainstorming
- Problem-solving
- Practical training

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)
1	Assignment 1: History, examination, diagnosis, treatment plan, and record keeping (4 cases)	2 nd -14 th	4	c1, c2, d1, d2
2	Assignment 2: Root canal treatment of maxillary or mandibular anterior tooth (1 case).	2 nd -14 th	4	c1, c2, d1, d2
3	Assignment 3: Root canal treatment of mandibular molar tooth (1 case).	2 nd -14 th	6	c1, c2, d1, d2
	Assignment 3: Root canal treatment of maxillary molar tooth (1 case).	2 nd -14 th	6	c1, c2, d1, d2
Total			20	

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	1 st -14 th	20	20 %	c1, c2, d1, d2
2	Quizzes 1 & 2	6 th , 12 th	10	10 %	a1, a2, b1, b2
3	Midterm Exam	7 th	20	20 %	a1, b1, b2
4	Practical Exam	15 th	10	10 %	c1, c2, d1, d2
5	Final Exam	16 th	40	40 %	a1, a2, b1, b2
Total			100	100%	

IX. Learning Resources:

1- Required Textbook(s) :

- 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

Endodontics IV (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:	Endodontics IV (clinical)			
2	Course Code & Number:	-----			
3	Credit Hours:	Credit Hours	Theory Hours		Lab. Hours
			Lecture	Exercise	
		2	1	3	--
4	Study Level/ Semester at which this course is offered:	4rd Level / 2nd Semester			
5	Pre –Requisite (if any):	Endodontic III (clinical)			
6	Co –Requisite (if any):	Operative dentistry IV periodontics II			
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			

III. Course Description:

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considerations for the medically complex endodontic patient.

IV. Course Intended Learning Outcomes (CILOs) :

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

	A. Knowledge and Understanding:
a1	Describe teeth anatomical variations, and recognize the management of teeth with immature apices and anatomical variations
a2	Recognize the management of tooth discoloration of non-vital teeth and iatrogenic endodontic events.
	B. Intellectual Skills:
b1	Recognize the difference between rhinosinusitis and endodontic disease, and the interrelationships of endodontics and orthodontics in treatment planning and patient treatment
b2	Recognize the management considerations for the medically complex endodontic patient.
	C. Professional and Practical Skills:
c1	Perform endodontic treatment on the patient's upper and lower molar teeth,
c2	Skilling diagnosis and treatment planning decision making with the consideration of the patient's health situation
	D. Transferable Skills:
d1	Encourage teamwork skills during endodontics clinics
d2	Manage time and resources.

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	Review for endodontics	- Previous term topics	1	1

V. Course Contents:				
A. Theoretical Aspect:				
No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
2	Endodontic Therapy in Teeth with Immature Apices	<ul style="list-style-type: none"> - Definitions - Diagnosis and case selection - Treatment planning - Vital pulp therapy for irreversible and reversible pulpitis (pulpotomy and Apexogenesis) - Therapies for necrotic pulp teeth <ul style="list-style-type: none"> • Apexification • Revascularization • Regeneration 	2,3	2
3	Endodontic Therapy in Teeth with Anatomical Variations	<ul style="list-style-type: none"> - Definitions - Classification - Management 	4,5,6	3
4	Midterm Exam		7	1
5	Bleaching Discolored Nonvital Teeth	<ul style="list-style-type: none"> - Etiology intrinsic discolorations <ul style="list-style-type: none"> • Systemic Causes • Local Causes - Treatment planning for internal bleaching 	8,9	2
6	Managing Iatrogenic Endodontic Events	<ul style="list-style-type: none"> - Definitions - Management of sodium hypochlorite extrusion - Management of instrument separation - Management of ledge formation - Management of perforations - Management of root canal filling materials extrusion 	10,11	2
7	Rhinosinusitis and Endodontic Disease	<ul style="list-style-type: none"> - Definitions - Anatomy and functions of the paranasal sinuses 		1

V. Course Contents:				
A. Theoretical Aspect:				
No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
		<ul style="list-style-type: none"> - Etiology, symptoms of rhinosinusitis - Diagnosis and treatment 		
8	Interrelationships of Endodontics and Orthodontics in Treatment Planning and Patient Treatment	<ul style="list-style-type: none"> - Reasons for knowing the relationships between endodontics and orthodontics - Pulpal injury that may occur during orthodontics treatment and their management 	13	1
9	Management Considerations for the Medically Complex Endodontic Patient	<ul style="list-style-type: none"> - Systemic health assessment of the endodontic patient - Management considerations for the common medical findings that may influence endodontic treatment planning: <ul style="list-style-type: none"> • Allergies • Pregnancy • Cardiovascular disease • Hypertension • Arrhythmias and Cardiac Pacemakers • Heart Murmurs and Valvular Disease • Ischemic Heart Disease • Heart Failure • Diabetes • Viral Infections • Anticoagulant therapy and bleeding disorders • Pulmonary disorders • Cerebrovascular accident • Renal disease and dialysis • Oral cancer 	14,15	2

V. Course Contents:				
A. Theoretical Aspect:				
No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
		<ul style="list-style-type: none"> • Liver disease • Adrenal suppression and long-term steroid use • Bone marrow and solid organ transplantation • Antiresorptive agent-induced osteonecrosis of the jaw (ARONJ) 		
10	Final Exam		16	1
Number of Weeks /and Units Per Semester			16	16

B. Case Studies and Practical Aspect:			
No.	Tasks/ Experiments	Week Due	Contact Hours
1	<ul style="list-style-type: none"> - History, examination, diagnosis, treatment plan, and record-keeping - Root canal treatment of single canal tooth (using rotary technique) - Root canal treatment of maxillary and mandibular premolars. (using hand technique) - Root canal treatment of maxillary molars. (using hand technique) - Root canal treatment of mandibular molars. (using hand technique) 	1 st -14 th	42
2	Practical Exam	15 th	3
Number of Weeks /and Units Per Semester		15	45

VI. Teaching Strategies of the Course:
<ul style="list-style-type: none"> - Lectures - Discussions - Brainstorming

- Problem-solving
- Practical training

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: History, examination, diagnosis, treatment plan, and record keeping (4 cases)	2nd -14th	4
2	Assignment 2: Root canal treatment of maxillary or mandibular anterior tooth (1 case).	2nd -14th	4
3	Assignment 3: Root canal treatment of mandibular molar tooth (1 case).	2nd -14th	6
	Assignment 3: Root canal treatment of maxillary molar tooth (1 case).	2nd -14th	6
Total			20

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

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
1	Assignments	1 st -14 th	20	20 %
2	Quizzes 1 & 2	6 th ,12 th	10	10 %
3	Midterm Exam	7 th	20	20 %

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

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
4	Practical Exam	15 th	10	10 %
5	Final Exam	16 th	40	40 %
Total			100	100%

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2	A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
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3	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.

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