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

Operative Dentistry III (Clinical)

Course No. (------)

Review committee:

Head of the Department

Quality Assurance head

Dean of Faculty

I. Course Identification and General Information:

1	**Course Title:**	Operative Dentistry III (Clinical)			
2	**Course Code & Number:**	----			
3	**Credit Hours:**	**Credit Hours**	**Theory Hours**		**Lab. Hours**
			Lecture	**Exercise**	
		2	1	2	--
4	**Study Level/ Semester at which this Course is offered:**	4th Level / 1st Semester			
5	**Pre –Requisite (if any):**	Operative Dentistry II (Pre-clinical)			
6	**Co –Requisite (if any):**	None			
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:**	Assoc. Prof. Dr. Ibrahim Z. Al-Shami			

II. Course Description:

In this course the students will be trained to control the infection in the dental operatory, diagnose the disease and plan the treatment for the patient, minimize the adverse effects while preparing cavities with high speed equipment's, minimize the side effects of restorative materials, control the pain and moisture while treating the patient, prepare simple and compound cavities, manage deep caries lesions and restore with different restorative material, counteract or repair the failed restorations, know the differences between direct and indirect posterior esthetic restorations.

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 the concepts of moisture control, sterilization and disinfection in Operative dentistry		**A1**	
a2	obtain a detailed case history of the patient, diagnose the disease and plan the treatment accordingly		**A4**	
a3	List various material and techniques used to restore different cavity preparations		**A6**	
	B. Intellectual Skills:			
b1	Identify pulpal and gingival responses to cavity preparation and restorative materials.		**B1**	
b2	Predict and asses the clinical manifestations of failure or success of any present restoration.		**B2**	
b3	Select and use the proper restorative material for each case		**B5**	
	C. Professional and Practical Skills:			
c1	Perform different operative procedure and restore all types of cavities properly.		**C7**	
c2	Manage Patient complaint professionally.		**C6**	
c3	Detect caries lesions, assess caries risk and diagnose dental caries in a clinical field.		**C2**	
c4	Perform deep conservative cavities and preserve pulp vitality		**C5**	
	D. Transferable Skills:			

d1	Communicate and work effectively and respectful with patients, clinical staff and colleagues		**D3**	
d2	Manage time, set priorities and work to prescribed time limits.		**D4**	
d3	Demonstrate the different clinical managing skills		**D7**	

(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 concepts of moisture control, sterilization and disinfection in Operative dentistry	▪ Lectures ▪ Discussions	▪ Quizzes ▪ Midterm Exam ▪ Final Exam
a2	obtain a detailed case history of the patient, diagnose the disease and plan the treatment accordingly	▪ Lectures ▪ Discussions	▪ Quizzes ▪ Midterm Exam ▪ Final Exam
a3	List various material and techniques used to restore different cavity preparations	▪ Lectures ▪ 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	Identify pulpal and gingival responses to cavity preparation and restorative materials.	▪ Lectures ▪ Demonstrations ▪ Discussions	▪ Quizzes ▪ Midterm Exam ▪ Final Exam
b2	Predict and asses the clinical manifestations of failure or success of any present restoration.	▪ Lectures ▪ Demonstrations ▪ Discussions	▪ Quizzes ▪ Midterm Exam ▪ Final Exam ▪ Practical Exams ▪ Semester work

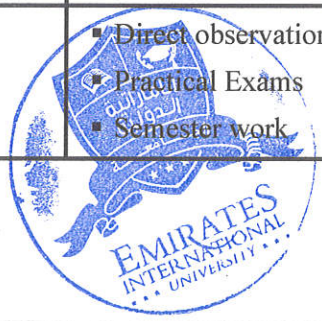
b3	Select and use the proper restorative material for each case	▪ Lectures ▪ Demonstrations ▪ Discussions	▪ Quizzes ▪ Midterm Exam ▪ Final Exam ▪ Practical Exams

(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 different operative procedure and restore all types of cavities properly.	▪ Practical Sessions ▪ Demonstrations ▪ Discussions	▪ Direct observation ▪ Practical Exams ▪ Semester work
c2	Manage Patient complaint professionally.	▪ Practical Sessions ▪ Demonstrations ▪ Discussions	▪ Direct observation ▪ Practical Exams ▪ Semester work
c3	Detect caries lesions, assess caries risk and diagnose dental caries in a clinical field.	▪ Practical Sessions ▪ Demonstrations ▪ Discussions	▪ Direct observation ▪ Practical Exams ▪ Semester work
c4	Perform deep conservative cavities and preserve pulp vitality	▪ Practical Sessions ▪ Demonstrations ▪ Discussions	▪ Direct observation ▪ Practical Exams ▪ Semester work

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

	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
d1	Communicate and work effectively and respectful with patients, clinical staff and colleagues	▪ Self-Learning ▪ Presentation ▪ Seminars	▪ Direct observation ▪ Practical Exams ▪ Semester work
d2	Manage time, set priorities and work to prescribed time limits.	▪ Self-Learning ▪ Presentation ▪ Seminars	▪ Direct observation ▪ Practical Exams ▪ Semester work
d3	Demonstrate the different clinical managing skills	▪ Self-Learning ▪ Presentation ▪ Seminars	▪ Direct observation ▪ Practical Exams ▪ Semester work



IV. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	Isolation and Control of the Operating Field	– Goals of isolation – Moisture Management – Rubber dam systems and its application. – Alternative and additional methods and factors – Other isolation techniques	1	2	a3, b1, b2
2	Infection control in dental clinic	– environmental hazards, cross contamination in dental units and apparatus. – Different modes of sterilizations and disinfection	1	2	a1, b2
3	patient assessment, examination, diagnosis and treatment planning.	– Caries detection, diagnosis – Extra and intraoral examination. – Caries prevention and control	2	4	a2, b2
4	Dental pain in operative procedures	– Types, causes, mechanism – -Control and management	2	4	a2, b1
5	Biological Considerations during tooth Preparation	– Dentine-pulp complex reaction to cavity preparation – irritants from restorative materials	1	2	a3, b1
6	**Midterm Exam**	– **MCQs and essay questions**	1	2	a1, a2, a3, b1, b2
7	Selection of appropriate restorative materials	– Types of restorative materials – the ideal restoration. – factors affecting material selection	1	2	a3, b2, b3

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
8	Biological Considerations of Restorative Materials	– The reaction of the oral mucosa to irritation from rough restoration surfaces and traumatic operative procedures – Reaction of the periodontium to restorations with – Cervical overhangs – Mercury exposure and hazard.	1	2	a3, b1, b3
9	Management of Deep - carious lesions	– Direct and indirect pulp capping – principles and considerations, – Zones of Caries lesion.	2	4	a3, b1
10	Failure of dental Restoration (composite and Amalgam)	– Etiology (Causes) of failure – Factors affecting the success of dental restoration – Clinical manifestations of different restorations failure – Management and Repair of failed dental restorations	2	4	a3, b2, b3
11	Indirect Posterior Esthetic Restorations	– Types, clinical indications, contraindications, advantages, disadvantages. – Composite inlays & onlays. – Advantages over direct resin composite restorations. – Posterior porcelain restoration. – Preparation for Indirect tooth colored restoration: Inlays & onlays	1	2	a2, a3, b1, b3
12	**Final Exam**	– **MCQs and essay questions**	1	2	a1, a2, a3, b1, b2, b3,
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	- Orientation to the dental clinic, dental units, its accessories and hand pieces. - Patient preparation, Dental chair and operating positions, - infection control and sterilization.	2nd	3	b2, c1, c3, d1, d3
2	- Patient assessment: examination, diagnosis and treatment planning - Clinic and patient records system - Control of oral fluids & rubber dam application (Demonstration)	3rd	3	b2, c1, c3, d1, d3
3	Practicing simple cavity prep. & restoration with direct restorations	4th to 8th	15	b3, c1, c2, c3, c4, d1, d2, d3
4	Practicing compound cavity prep. & restoration with direct restorations	9th to 14th	18	b3, c1, c2, c3, c4, d1, d2, d3
5	**Practical Examination**	15th	3	b2, b3, c1-c4 d1-d3
Number of Weeks /and Units Per Semester		**14**	**42**	

V. Teaching Strategies of the Course:

- Lectures
- Presentations
- Demonstrations
- Discussions
- Seminars
- Practical Sessions
- Self-Learning

VI. Assessment Methods of the Course:

- Quizzes
- Midterm Exam
- Final Exam
- Practical Exam
- Semester work
- Direct observation

VII. Assignments:

No.	Assignments	Week Due	Mark	Aligned CILOs (symbols)
1	**Semester practical work:** **- Clinical Cases and Requirements**	Week 2 to week 14	10	b2, b3, c1-c4 d1-d3
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**	Week 2 to week 14	10	10 %	b2, b3, c1-c4 d1-d3
2	**Quiz**	Week 4	5	5 %	a1, a2, a3, b1, b2
3	**Midterm Exam**	Week 8	20	20 %	a1, a2, a3, b1, b2
4	**Practical Exam**	Week 15	15	15 %	b2, b3, c1-c4 d1-d3
5	**Final Exam**	Week 16	50	50 %	a1, a2, a3, b1, b2, b3,
Total			**100**	**100%**	

IX. Learning Resources:

1- Required Textbook(s):

1- Harold Heymann, Edward Swift, Andre Ritter, : Sturdevant's Art and Science of Operative Dentistry, th Edition, Mosby, USA.

2- Avijit Banerjee, Timothy F. Watson, 2011: Pickard's Manual of Operative Dentistry, 9th Edition, Oxford, England.

2- Essential References:

1- Nisha Garg, Amit Garg, 2015: Textbook of Operative Dentistry. 3rd Edition, JP Medical Ltd, India.

2- Peter Jacobsen, 2008: Restorative Dentistry: An Integrated Approach, 2nd Edition, Wiley-Blackwell, USA.

3- Ramya Raghu, Raghu Srinivasan,: CLINICAL OPERATIVE DENTISTRY PRINCIPLES AND PRACTICE, 2nd Edition, Emmess, India.

3- Electronic Materials and Web Sites etc.:

Websites:

1- Journal of dentistry

https://www.journals.elsevier.com › journal-of-dentistry

2- Operative Dentistry Journal

https://www.meridian.allenpress.com/operative-dentistry

3- Dental Materials Journal

https://www.researchgate.net

4- Digital Restorative Dentistry

https://www.springer.com/gp/book

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

Operative Dentistry III (Clinical)

Course No. (-------)

I. Information about Faculty Member Responsible for the Course:		
Name of Faculty Member:	Ibrahim Z. Al-Shami	**Office Hours**

Location& Telephone No.:	Sanaa 777980568	4 Hours Weekly					
E-mail:	ibrahimzaed@yahoo.com	SAT 1	SUN	MON 1	TUE 1	WED	THU 1

II. Course Identification and General Information:

1	Course Title:	Operative Dentistry III (Clinical)			
2	Course Code & Number:	----			
3	Credit Hours:	Credit Hours	Theory Hours		Lab. Hours
			Lecture	Exercise	
		2	1	2	--
4	Study Level/ Semester at which this Course is offered:	4th Level / 1st Semester			
5	Pre –Requisite (if any):	Operative Dentistry II (Pre-clinical)			
6	Co –Requisite (if any):	None			
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:**	Assoc. Prof. Dr. Ibrahim Z. Al-Shami

III. Course Description:

In this course the students will be trained to control the infection in the dental operatory, diagnose the disease and plan the treatment for the patient, minimize the adverse effects while preparing cavities with high speed equipment's, minimize the side effects of restorative materials, control the pain and moisture while treating the patient, prepare simple and compound cavities, manage deep caries lesions and restore with different restorative material, counteract or repair the failed restorations, know the differences between direct and indirect posterior esthetic restorations.

IV. Course Intended Learning Outcomes (CILOs):

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

	A. Knowledge and Understanding:
a1	Describe the concepts of moisture control, sterilization and disinfection in Operative dentistry
a2	obtain a detailed case history of the patient, diagnose the disease and plan the treatment accordingly
a3	List various material and techniques used to restore different cavity preparations
	B. Intellectual Skills:
b1	Identify pulpal and gingival responses to cavity preparation and restorative materials.
b2	Predict and asses the clinical manifestations of failure or success of any present restoration.
b3	Select and use the proper restorative material for each case
	C. Professional and Practical Skills:
c1	Perform different operative procedure and restore all types of cavities properly.
c2	Manage Patient complaint professionally.
c3	Detect caries lesions, assess caries risk and diagnose dental caries in a clinical field.
c4	Perform deep conservative cavities and preserve pulp vitality

	D. Transferable Skills:
d1	Communicate and work effectively and respectful with patients, clinical staff and colleagues
d2	Manage time, set priorities and work to prescribed time limits.
d3	Demonstrate the different clinical managing skills

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	Isolation and Control of the Operating Field	– Goals of isolation – Moisture Management – Rubber dam systems and its application. – Alternative and additional methods and factors – Other isolation techniques	1	2
2	Infection control in dental clinic	– environmental hazards, cross contamination in dental units and apparatus. – Different modes of sterilizations and disinfection	1	2
3	patient assessment, examination, diagnosis and treatment planning.	– Caries detection, diagnosis – Extra and intraoral examination. – Caries prevention and control	2	4
4	Dental pain in operative procedures	– Types, causes, mechanism – -Control and management	2	4
5	Biological Considerations during tooth Preparation	– Dentine-pulp complex reaction to cavity preparation – irritants from restorative materials	1	2

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
6	**Midterm Exam**	– **MCQs and essay questions**	1	2
7	Selection of appropriate restorative materials	– Types of restorative materials – the ideal restoration. – factors affecting material selection	1	2
8	Biological Considerations of Restorative Materials	– The reaction of the oral mucosa to irritation from rough restoration surfaces and traumatic operative procedures – Reaction of the periodontium to restorations with – Cervical overhangs – Mercury exposure and hazard.	1	2
9	Management of Deep - carious lesions	– Direct and indirect pulp capping – principles and considerations, – Zones of Caries lesion.	2	4
10	Failure of dental Restoration (composite and Amalgam)	– Etiology (Causes) of failure – Factors affecting the success of dental restoration – Clinical manifestations of different restorations failure – Management and Repair of failed dental restorations	2	4
11	Indirect Posterior Esthetic Restorations	– Types, clinical indications, contraindications, advantages, disadvantages. – Composite inlays & onlays. – Advantages over direct resin composite restorations. – Posterior porcelain restoration	1	2

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
		– Preparation for Indirect tooth colored restoration: Inlays & onlays		
12	**Final Exam**	**– MCQs and essay questions**	1	2
Number of Weeks /and Units Per Semester			**16**	**32**

B. Case Studies and Practical Aspect:

No.	Tasks/ Experiments	Week Due	Contact Hours
1	- Orientation to the dental clinic, dental units, its accessories and hand pieces. - Patient preparation, Dental chair and operating positions, - infection control and sterilization.	2nd	3
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Number of Weeks /and Units Per Semester		**14**	**42**

VI. Teaching Strategies of the Course:

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No.	Assignments	Week Due	Mark
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IX. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
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