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 II (Pre-Clinical)

Course No. (----)



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Review committees

Head of the Department

Quality Assurance head

Dean of Faculty







I.	I. Course Identification and General Information:					
1	Course Title:	Operativ	Operative Dentistry II (Pre-Clinical)			
2	Course Code & Number:					
		Credit	Theory	Hours	Lab.	
3	Credit Hours:	Hours	Lecture	Exercise	Hours	
		3	2		2	
4	Study Level/ Semester at which this Course is offered:	3 rd Level / 2nd Semester				
5	Pre -Requisite (if any):	Operative Dentistry I (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. I	Assoc. Prof. Dr. Ibrahim Z. Al-Shami			

II. Course Description:

This is the last pre-clinical operative dentistry course provided during the second semester of the third year that representing different restorative procedures in operative dentistry preparing the students for the clinical courses. students will be trained to prepare posterior compound & complex cavities and restore with Amalgam and advanced restorative materials like resin composite and modified glass ionomer cement on artificial teeth, know the differences between direct and indirect restorations, know the basic principles and technique of cavity preparation for cast gold and direct gold restorations and apply rubber dam on the manikin.





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III. Course Intended Learning **Outcomes (CILOs):** Referenced PILOs Upon successful completion of the Learning out of program course, students will be able to: I, A A. Knowledge and Understanding: or E Identify the applied aspects of glass ionomer cement and the various a1 A1 characteristics of the adhesive bonding systems and composite materials a2 Describe the protection systems pulp-A2 dentin complex Understand the concepts of cavity a3 preparations of direct and indirect A4 restorations and the various steps involved in it **B.** Intellectual Skills: Identify different types of Carious and b1 non-Carious Lesions that affect tooth B1 structure b2 Differentiate between different dental **B5** materials used in operative dentistry C. Professional and Practical Skills: Prepare different types of compound and c1 complex cavities and restoring using C2 different materials and technique c2 perform appropriate preventive and C4 restorative treatment options D. Transferable Skills: d1Communicate with dental assistants and **D**3 colleagues easily D1 Advocate proper self-evaluation. d2 Manage time, set priorities and work to d3 **D4** prescribed time limits.





	(A) Alignment of Course Intend to Teaching Strategies and Asse		ledge and Understanding)
	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
a1	Identify the applied aspects of glass ionomer cement and the various characteristics of the adhesive bonding systems and composite materials	LecturesDiscussions	QuizzesMidterm ExamFinal Exam
a2	Describe the protection systems pulp-dentin complex	LecturesDiscussions	 Quizzes Midterm Exam Final Exam
a3	Understand the concepts of cavity preparations of direct and indirect restorations and the various steps involved in it	LecturesDiscussions	QuizzesMidterm ExamFinal Exam
	(B) Alignment of Course Intende Strategies and Assessment Meth		ctual Skills) to Teaching
	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
b1	Identify different types of Carious and non-Carious Lesions that affect tooth structure	LecturesDemonstrationsDiscussions	 Quizzes Midterm Exam Final Exam Practical Exams
b2	Differentiate between different dental materials used in operative dentistry	LecturesDemonstrationsDiscussions	 Quizzes Midterm Exam Final Exam Practical Exams Semester work
-112	(C) Alignment of Course Intende Skills) to Teaching Strategies and	· ·	sional and Practical
	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
c1	Prepare different types of compound and complex cavities and restoring using different materials and	 Practical Sessions Demonstrations Discussions	Direct observation Practical Exams Semester work

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	technique		
c2	perform appropriate	■ Practical Sessions	■ Direct observation
	preventive and restorative	Demonstrations	 Practical Exams
	treatment options	Discussions	 Semester work

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

	Strategies and Assessment Meth	ious.	
	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
d1	Communicate with dental assistants and colleagues easily	Self-LearningPresentationSeminars	Direct observationPractical ExamsSemester work
d2	Advocate proper self-evaluation.	Self-LearningPresentationSeminars	Direct observationPractical ExamsSemester work
d3	Manage time, set priorities and work to prescribed time limits.	Self-LearningPresentationSeminars	Direct observationPractical ExamsSemester work

IV. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	Direct Posterior Composite Restorations	 Preparation of operating site. Types of Class I and Class II preparations Indication and contraindications, advantages, and disadvantages. Restorative Procedures: Class I, and Class II Shade selection and Pulp protection Finishing and polishing 		4	a1, b2
2	Preventive Resin Restorations	 Pit and Fissures Sealants, Minimal Preparation for Posterior Composite Fissures Sealant procedure 		2 TEST	a2, b2



No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
	,	- Class VI preparation			
3	None Caries Lesions	 Definitions, different types of tooth surface loss causes signs and symptoms etiology and clinical presentation of bruxism diagnosis and prevention of tooth surface loss. 	1	2	a2, b1, b2
4	Glass ionomer restorative material	 Conventional, modified, Compomers and smart materials Types Differences between conventional GI, resin modified GI, and Compomers. Setting reaction of each type. Advantages of resin modified GI over conventional type. Clinical Manipulation Sandwich technique 	1	2	a1, b2
5	Complex Amalgam Restoration	 Introduction Pin less-retained complex amalgam Preparations, The additional means of retention: retentive grooves, amalgam pins, slots, steps, circumferential slots. Restorative Technique Cusps capping 	2	4	a2, b1
6	Midterm Exam	MCQs and essay questions	1	2	a1, a2, b1, b2
7	- Advantages, disadvantages, Pin retained - Indications, contraindications, Amalgam - Types of pins and technique of placement		10 5 3 4 C)	4 TES	a3



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No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
		Tooth preparationclinical applicationsComplications and failure			
8	Pulp Protection therapy	 Definitions. indications for Insulating materials reaction of the dental pulp to cavity liners and varnishes dentine adhesive systems as cavity liners. 	1	2	a1, a2, b1
9	Provisional Restoration	Definition.Objectives and RequirementsProvisional restoration materials.Techniques	1	2	a3, b2,
10	Principles of Tooth Preparation for Indirect Restorations	 Definitions. Classification of castings Materials Indications, contraindications, advantages and disadvantages. 	1	2	a3, b2, c1, d3
11	Tooth Preparation for Cast Gold Inlay and only Restorations	-Indications for cast gold inlay, onlay -Steps of preparation for Cast Gold Inlay and Onlay Restoration - Difference between amalgam and inlay preparation.	2	4	a3, b2
12	Final Exam	- MCQs and essay questions	1	2	a1, a2. a3, b1, b2
	Number of Wee	ks /and Units Per Semester	16	32	

В.	Case Studies and Practical Aspect:	Assessed
No.	Tasks/ Experiments	Week Due Contact Hours CILOs
1	Demonstration and practice: Rubber Dam Application on Mandibular Teeth and Class II Amalgam Cavity	Week 1 25 b2, c1, c3, d3



No.	Tasks/ Experiments	Week Due	Contact Hours	Learning Outcomes (CILOs)
	Preparation			
2	Practice: Class III Cavity Preparation for Composite Resin on Natural Tooth	Week 2	2	b2, c1, c2, c3, d3
3	practice: Class IV (Traumatic) Cavity Preparations and Restorations for Composite Resin on Natural Tooth	Week 3	2	b2, c1, c2, c3, d3
4	practice: Class V Facial Cavity Preparation and Composite Resin / GIC Restoration Closed and open Sandwich Technique	Week 4 and 5	4	b2, c1, c2, c3, d3
5	Demonstration and practice: Class I Cavity Preparation and Restoration for Composite Resin	Week 6	2	b2, c1, c2, c3, d3
6	Demonstration and practice: Class II (MOD) Posterior Composite Cavity Preparation & Restoration (Conventional)	Week 7	2	b2, c1, c2, c3, d3
7	Demonstration and practice: Class II Slot Posterior Composite Cavity Preparation & Restoration	Week 8	2	b2, c1, c2, c3, d3
8	Demonstration and practice: Compound & complex cavity preparation and restorations using direct restorations Class II (MOD) Amalgam Cavity Preparation with (MB) Cusp Removal and (DL) Cusp Reduction	Week 9 and 10	4	b2, c1, c2, c3, d3
9	Demonstration and practice: Slot Preparation and Pin Placement	Week 11	2	b2, c1, c2, c3, d3
10	Demonstration and practice: Class II (MOD) Preparation for indirect restorations Inlay and only	Week 12 and 13	4	b2, c1, c2, c3, d3
11	Practice: Preparation and restoration: Amalgam and Composite general	Week 14	2	b2, c1, c2, c3, d3
12	Practical Exam	Week 150	2	b2, c1, c2, c3, d3
	Number of Weeks /and Units Per Semester	15/25	30	



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

No.	Assignments	Week Due	Mark	Aligned CILOs (symbols)
1	Semester work: - practical laboratory work and Requirements	Week 1 to week 14	10	b2, c1, c2, c3, 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 1 to week 14	10	10%	b2, c1, c2, c3, d3
2	Quizzes	Week 6	5	5 %	a1, a2, b2
3	Midterm Exam	Week 8	20	20 %	a1, a2, b1, b2
4	Practical Exam	Week 15	15	15 %	b2, c1, c2, c3, d3
5	Final Exam	Week 16	50	50 %	a1, a2. a3, b1, b2
	Total		100	100 %	

IX. Learning Resources:

1- Required Textbook(s):

- 1- Theodore Roberson, Harald O. Heymann, 2013: Sturdevant's Art and Science of Operative Dentistry, 6th Edition, Mosby, USA.
- 2- Hilton, Thomas J.; Ferracane, Jack L., and Broome, James, 2013: Fundamentals of Operative Dentistry: A Contemporary Approach, Fourth Edition, Quintessence, USA.

2- Essential References:

- 1- A. J. E. Qualtrough, Julian Satterthwaite, Leean Morrow, and Paul Brunton, 2009: Principles of Operative Dentistry, John Wiley & Sons, USA.
- 2- Nisha Garg, Amit Garg, 2015: Textbook of Operative Dentistry. 3rd Edition, JP Medical Pub, India.
- 3- Harpreet Singh, 2011: Essentials of Preclinical Conservative Dentistry, 2nd Edition, Walter Kluwer, Netherland.

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 II (Pre-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 SUN MON TUE WED THU 1 1 1 WED 1					







I	II. Course Identification and General Information:					
1	Course Title:	Operativ	ve Dentistry	II (Pre-Clin	ical)	
2	Course Code & Number:					
		Credit	Theory	Hours	Lab.	
3	Credit Hours:	Hours	Lecture	Exercise	Hours	
		3	2		2	
4	Study Level/ Semester at which this Course is offered:	3rd Level / 2nd Semester				
5	Pre -Requisite (if any):	Operative Dentistry I (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			Shami	

III. Course Description:

This is the last pre-clinical operative dentistry course provided during the second semester of the third year that representing different restorative procedures in operative dentistry preparing the students for the clinical courses. students will be trained to prepare posterior compound & complex cavities and restore with Amalgam and advanced restorative materials like resin composite and modified glass ionomer cement on artificial teeth, know the differences between direct and indirect restorations, know the basic principles and technique of cavity preparation for cast gold and direct gold restorations and apply rubber dam on the manufacture.





IV. Course Intended Learning Outcomes (CILOs):

	Upon successful completion of the Course, student will be able to:	
	A. Knowledge and Understanding:	
a1	Identify the applied aspects of glass ionomer cement and the various characteristics of the adhesive bonding systems and composite materials	
a2	Describe the protection systems pulp-dentin complex	
a3	Understand the concepts of cavity preparations of direct and indirect restorations and the various steps involved in it	
	B. Intellectual Skills:	
b1	Identify different types of Carious and non-Carious Lesions that affect tooth structure	
b2	Differentiate between different dental materials used in operative dentistry	
	C. Professional and Practical Skills:	
c1	Prepare different types of compound and complex cavities and restoring using different materials and technique	
c2	perform appropriate preventive and restorative treatment options	
	D. Transferable Skills:	
d1	Communicate with dental assistants and colleagues easily	
d2	Advocate proper self-evaluation.	
d3	Manage time, set priorities and work to prescribed time limits.	

V. Course Contents:

Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	a Possa di	Number of Weeks	Contact Hours
1	Direct Posterior Composite	 Preparation of operating site. Types of Class I and Class II preparations Indication and contraindications, advantages, and disadvantages. 			ES.





V. Course Contents:

Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
	Restorations	 Restorative Procedures: Class I, and Class II Shade selection and Pulp protection Finishing and polishing 		
2	Preventive Resin Restorations	 - Pit and Fissures Sealants, - Minimal Preparation for Posterior Composite - Fissures Sealant procedure - Class VI preparation 	1	2
3	None Caries Lesions	 Definitions, different types of tooth surface loss causes signs and symptoms etiology and clinical presentation of bruxism diagnosis and prevention of tooth surface loss. 	1	2
4	Glass ionomer restorative material	 Conventional, modified, Compomers and smart materials Types Differences between conventional GI, resin modified GI, and Compomers. Setting reaction of each type. Advantages of resin modified GI over conventional type. Clinical Manipulation Sandwich technique 	1	2
5	Complex Amalgam Restoration	 Introduction Pin less-retained complex amalgam Preparations, The additional means of retention: retentive grooves, amalgam pins, 	2	4





V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
		slots, steps, circumferential slots.		
		- Restorative Technique - Cusps capping		
6	Midterm Exam	MCQs and essay questions	1	2
7	Pin retained Amalgam Restorations	 Advantages, disadvantages, Indications, contraindications, Types of pins and technique of placement Tooth preparation clinical applications Complications and failure 	2	4
8	Pulp Protection therapy	 Definitions. indications for Insulating materials reaction of the dental pulp to cavity liners and varnishes dentine adhesive systems as cavity liners. 	1	2
9	Provisional Restoration	Definition.Objectives and RequirementsProvisional restoration materials.Techniques	1	2
10	Principles of Tooth Preparation for Indirect Restorations	 Definitions. Classification of castings Materials Indications, contraindications, advantages and disadvantages. 	1	2
11	Tooth Preparation for Cast Gold Inlay and only	-Indications for cast gold inlay onlay -Steps of preparation for Cast cold line and Onlay Restoration	2	4





V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
e en Sola	Restorations	- Difference between amalgam and inlay preparation.		
12	Final Exam	- MCQs and essay questions	1	2
	Number of We	16	32	

В.	B. Case Studies and Practical Aspect:				
No.	Tasks/ Experiments	Week Due	Contact Hours		
1	Demonstration and practice: Rubber Dam Application on Mandibular Teeth and Class II Amalgam Cavity Preparation	Week 1	2		
2	Practice: Class III Cavity Preparation for Composite Resin on Natural Tooth	Week 2	2		
3	practice: Class IV (Traumatic) Cavity Preparations and Restorations for Composite Resin on Natural Tooth	Week 3	2		
4	practice: Class V Facial Cavity Preparation and Composite Resin / GIC Restoration Closed and open Sandwich Technique	Week 4 and 5	4		
5	Demonstration and practice: Class I Cavity Preparation and Restoration for Composite Resin	Week 6	2		
6	Demonstration and practice: Class II (MOD) Posterior Composite Cavity Preparation & Restoration (Conventional)	Week 7	2		
7	Demonstration and practice: Class II Slot Posterior Composite Cavity Preparation & Restoration	Week 8	2		
8	Demonstration and practice: Compound & complex cavity preparation and restorations using direct restorations Class (MOD) Amalgam Cavity Preparation with (MB) Cusp Removal	Week 9 and	4		





В.	Case Studies and Practical Aspect:				
No.	Tasks/ Experiments	Week Due	Contact Hours		
	and (DL) Cusp Reduction				
9	Demonstration and practice: Slot Preparation and Pin Placement	Week 11	2		
10	Demonstration and practice: Class II (MOD) Preparation for indirect restorations Inlay and only	Week 12 and 13	4		
11	Practice: Preparation and restoration: Amalgam and Composite general	Week 14	2		
12	Practical Exam	Week 15	2		
	Number of Weeks /and Units Per Semester 15				

VI. Teaching Strategies of the Course:

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

VII. Assessment Methods of the Course:

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







VI	II. Assignments:		
No.	Assignments	Week Due	Mark
1	Semester work: - practical laboratory work and Requirements	Week 1 to week 14	10
	Total		10

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
1	Assignments	Week 1 to week 14	10	10%
2	Quizzes	Week 6	5	5 %
3	Midterm Exam	Week 8	20	20 %
4	Practical Exam	Week 15	15	15 %
5	Final Exam	Week 16	50	50 %
	Total		100	100 %

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a lange man	Forgery and Impersonation:

Other policies:

7

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