

SECOND YEAR

RDS 211

PRINCIPLES OF OPERATIVE DENTISTRY

Course Director : Dr. Mohammed Quaid Al-Qahtani [DUC]

211 RDS
Preclinical Operative Dentistry

COURSE DESCRIPTION

This course consists of two main components, the principles of cavity preparations for the currently available restoratives and their physical and manipulative characteristics and cavity restoration. They are provided by the RDS Department during the two semesters of the second year of the RDS program. It is a 1+2+0, equivalent to 3 credit hours course for first semester plus 1 + 2 + 0 for second semester a total of 6 credit hours course.

This module will provide you with an overview of the Operative Dentistry Program, its organization, the kinds of instructional materials you will be using and the types of testing and grading procedures employed.

This course of study is critically important to your future as a practitioner. It prepares you to provide the major portion of dental care to your patients.

It will be a combination of lectures and lab exercises, representing different restorative procedures in Operative Dentistry.

All of the lectures, instructional procedures and materials that you will receive have been designed to help you develop the knowledge, the skills and judgment necessary to achieve the goals of Operative Dentistry Program.

The development and exercise of integrity is as essential to your competency in dental care as in the development of your knowledge and skills.

COURSE GOALS AND OBJECTIVES

1. The primary objectives of this course is to present the basic principles, techniques and rational of operative procedures and apply them.
2. Present a step-by-step procedure for each cavity preparation and cavity restoration.
3. Train the students in different operations (cavity preparation and restoration) by doing specific standardized exercises on Typodont Models mounted on mannequins.
4. Train the students in these operations in a situation similar to the clinical set-up.
5. Train students to recognize their own mistakes, and how to correct them.
6. By the end of this course, the student must be prepared to take the next clinical courses.

ORGANIZATION OF THE COURSE

There are two basic components to this course: class lectures and lab

I. CLASS LECTURES

Most of the knowledge that you will be required to learn will be presented through a variety of formal lectures.

These will be structured to help you understand the reasons behind the procedures that you will be using as well as teach you the basic knowledge you will need to perform the procedures.

- Once a week, the lecture period will begin with a quiz on the previous week's lecture

The Final Quiz grade will be determined by averaging the weekly quizzes, grades, including zero for those quizzes not turned in.

There will also be a mid-term and final examinations.

These exams are also geared to the course objectives and are designed to determine how well you have learned the material and how you are progressing toward achievement of the objectives.

All of these testing procedures form the base for your grade in operative dentistry and are weighted accordingly to their importance.

REQUIRED READING:

- *Sturdevant's Art and Science of Operative Dentistry*, 4th edition 2002
- Baum, Phillips and Lund.. *Textbook of Operative Dentistry*, 3rd edition 1995.
- Pickard manual
Pickard's Manual of Operative Dentistry 7th edition 2000.
- Schwartz et al. *Fundamentals of Operative Dentistry- a contemporary approach*, 2nd edition 2001.
- Hand-outs (if needed)

II. LAB EXERCISES

The laboratory phase of the course is a very important component of your training in Operative Dentistry.

Practice exercises will help you develop skills in Operative Dentistry procedures.

All of the tasks that will be practice in the laboratory must be performed according to specific criteria taught during lectures.

Each exercise is turned in first for evaluation and finally for grading to the appropriate group instructor.

As you practice each of the tasks assigned in the laboratory, you will increase your skills and more well on your way to developing competency.

- **REMEDICATION**

Unacceptable projects must be remediated to an acceptable level by the way of repetition or further exercises assigned by the Course Director.

- **INDEPENDENT TIMED-EXERCISES**

After considerable practice, each student will be tested on the performance of a sequence of procedure. They will be **6 practical exams**.

GRADING:

Lecture and Lab

95 - 100	=	A+
90 - 94	=	A
85 - 89	=	B+
80 - 84	=	B
75 - 79	=	C+
70 - 74	=	C
65 - 69	=	D+
60 - 64	=	D
Below 60	=	F

The student has to achieve a passing grade in both the Didactic and Laboratory Sections of the course to be eligible for promotion.

Examination:

1. Assessment both in theory and practical

The grading in the assessment of theory and practical is divided into the following system.

I.	Theory		
	• Quizzes	:	10%
	• Mid-Year exam	:	15%
II.	Laboratory		
	• Daily projects	:	10%
	• Practical exams	:	20%
	• Subjective Evaluation	:	5%
	Total -----		<u>60%</u>

2. Final examination

Final examination is computed as follows:

	• Final written	:	25%
	• Final practical	:	15%
			<u>40%</u>

Evaluation Methods:

- All preparations and restorations listed on the progress sheet will be approved and graded by the designed instructor.
- All timed practical exercises will be completed during assigned laboratory periods.
- Written examinations will be based on the LECTURE MATERIAL; HAND-OUTS, READING ASSIGNMENT, PRINT-OUT and information given during lab sessions.

GRADING CRITERIA STATEMENT

The following criteria will be used in evaluating student lab work:

- 1) ATTENDANCE: All students are expected to be in the lab during those times designated for unit laboratory.
 - a. Attendance will be taken during the sessions.
 - b. Completion of all projects is a requirement for oral and lab exams.
- 2) PREPARATION CRITERIA: Each exercise is turned in at a fixed time, corrected by enumerating the mistakes. The student is then asked to correct the mistakes or to do it over.
- 3) The following will be considered as a basis for a **FAILURE**:
 - a. Adjacent teeth damaged during preparation.
 - b. Examination tooth or any adjacent teeth removed during the preparation.
 - c. Over-preparation and under-preparation of teeth which would result in :
 - i. Inability of the preparation to be restored effectively with the material for which the preparation was intended.
 - ii. Any damage to the tooth which, in actual clinical practice, would result in the necessity to perform root canal treatment or surgical removal of the tooth.
 - d. Preparation partly or entirely done by any individual other than the student who is submitting the work.

LABORATORY EVALUATION:

Criteria based on Point System

*Unacceptable = redo
Below average = less than desirable
Acceptable = improvement recommended
Above average = needs minor correction
Excellent = maintain this level of performance

* Exercise to be repeated for re-evaluation.

- Project may be done, if missed during one's own time with genuine excuse.
- Examination may be re-taken with genuine excuse and permission from Administration (Dean or Vice-Dean).
- These "grades" will be recorded on your individual progress sheets.
- There will be no redo for missed quizzes with excuse and the average grade will be divided by the number of quizzes minus one.

OTHER REQUIREMENTS:

Class representative, chosen from the class, will be responsible for photocopying hand-outs and print-outs. There may at times be needed for class purchase which will be communicated to the class representative in advance.

Students will be required to possess the following during all laboratory session.

- a. Disposable gloves (natural teeth)
- b. Disposable masks
- c. Protection glasses

The following items must be purchased by each student:

1. Pencil
2. Extra-fine permanent markers (red, black, green)

*** Students will be required to provide natural teeth for the tooth colored exercises:

- 4 molars (upper or lower)
- 2 Pre-molar (upper or lower)
- 4 anterior (upper or lower)

You will be given precise instructions on mounting these teeth by your group supervisors.

GOOD LUCK AND REMEMBER WE WILL HELP YOU IN EVERYWAY POSSIBLE
THE REST IS UP TO YOU.

KING SAUD UNIVERSITY
College of Dentistry
Department of Restorative Dental Sciences
DIVISION OF OPERATIVE DENTISTRY

211 RDS
LECTURE OUTLINE
Academic Year _____

First Semester

Course Director: Dr. Mohammed Quaid Al-Qahtani [DUC]

WEEK	DATE	LECTURE TOPIC	LECTURER
1		Introduction to the Course, Attendance Checking, Information	
2		Isolation and control of the operating field - I	
3		Isolation and control of the operating field - II	
4		Class I Amalgam Cavity Preparation	
5		Class V Amalgam Cavity Preparation	
6		Restoration of Class I and Class V with Amalgam / Finishing and Polishing of Amalgam Restorations	
7		Class II Amalgam Cavity Preparation	
8		Pulp Protection by the Use of Insulating Bases and Liners	
9		Dental Matrices: Definition, Uses, Requirements, Types and their Application	
-----		RAMADAN EID VACATION	
10		Restoration of Class II, Finishing and Polishing Amalgam	
11		Introduction to the Complex Amalgam Restoration + Pin-retained Complex Amalgam Cavity Preparation	
12		PinLess-retained Complex Amalgam Preparation + Restorative Technique of Complex Amalgam Restoration	
13		Composite Resin Material Part I: History, Composition, Type, Advantages, Disadvantages, Indications, Contraindications	
14		Principles of Tooth Preparation for Composite Restoration Class III Composite Resin Cavity Preparation	
15		MID-YEAR EXAMINATION	
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Second Semester

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WEEK	DATE	LECTURE TOPIC	LECTURER
1		Class IV, V Composite Resin Cavity Preparations	
2		Composite Resin Material II: Etching, Bonding, and Restorative Procedure	
3		Pit and Fissure Sealant, Preventive Resin Restorations and Minimal Preparations for Posterior Composite	
4		Direct Posterior Esthetic Restorations	
5		Glass Ionomer Cement (Material)	
6		Glass Ionomer Cement (Clinical Manipulation)	
7		Resin Modified Glass Ionomer and Compomers	
8		Indirect Posterior Esthetic Restorations	
9		Principles of Tooth Preparation for Cast Gold Restorations	
10		Tooth Preparation for Cast Gold Inlay Restoration	
11		Tooth Preparation for Cast Gold Onlay Restorations	
12		Provisional Restoration	
13		Failure of Restoration	
14		Biological Influence of Restorative Procedures and Materials	
15		Lectures Review	

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PRACTICAL COURSE OUTLINE
Academic Year _____

First Semester

Course Director: Dr. Mohammed Quaid Al-Qahtani [DUC]

WEEK	SESSION	DATE	PRACTICAL EXERCISE
1	1		Introduction to the Course, Distribution of Instruments, Demonstration on Seating Position, Occlusal Adjustment of Typodont Models
	2		Occlusal Adjustment of Typodont Models (continue), Demonstration on Rotary and Hand Cutting Instruments
2	3		Introduction to Instrumentation of Ivorine Teeth
	4		Demonstration and Application of RD on Mandibular Teeth
3	5		Demonstration and Application of RD on Maxillary Teeth
	6		Demonstration and Doing Occlusal (Class I) Amalgam Cavity Preparation on # 46
4	7		Occlusal (Class I) and Buccal pit Amalgam Cavity Preparations on # 37
	8		Demonstration on indirect working on maxillary teeth and Occlusal surface (Class I) Cavity Preparation on #24
5	9		Occlusal Amalgam (Class I) Cavity Preparation on # 26
	10		Demonstration and Doing Cervical (Class V) Amalgam Cavity Preparation on # 35
6	11		Demonstration and Doing Occlusal (Class I) Amalgam Restorations on teeth # 46
	12		Occlusal (Class I) Amalgam Restorations on teeth # 24, # 26
7	13		Occlusal and Cervical Amalgam (Class I and V) Restoration #35, #37
	14		Demonstration on Finishing and Polishing of Amalgam Restoration and F/ P of these restorations on teeth # 24, 26, 35, 37, and 46
8	15		FIRST PRACTICAL EXAM
	16		Demonstration and Doing (MO Class II) Amalgam Cavity Preparation on # 36
9	17		Demonstration and Application of Bases and Liners on Natural Teeth
	18		(MOD Class II) Amalgam Cavity Preparation on # 45
			RAMADAN VACATION

WEEK	SESSION	DATE	PRACTICAL EXERCISE
10	19		MODL Class II Amalgam preparation #16.
	20		Matrix Formation and Placement then Amalgam Restoration #36 (MO)
11	21		Amalgam Restroation of tooth # 45 (MOD)
	22		Double Matrix Technique (Demonstration) then Amalgam Restoration #16 (MODL).
12	23		Finishing and Polishing of # 16, # 45 & # 36
	24		SECOND PRACTICAL EXAMINATION
13	25		MODL Amalgam Cavity Preparation of Tooth #17 with DL Cusp Reduction and MB Cusp Removal-using slot
	26		MOD Amalgam cavity preparation on tooth # 46 with MB Cusp Removal and DL Cusp Reduction- using pin
14	27		Copper Band Placement (Demonstration) then Amalgam Restoration # 46 MOD with MB Cusp Removal and DL Cusp Reduction- using pin
	28		MOD Amalgam Cavity Preparation of Natural Tooth , Removal of Two Cusps and Cusp Reduction with Slot and Pin + Finishing and Polishing of Amalgam Restoration # 46.
15	29		THIRD PRACTICAL EXAM
			MID YEAR BREAK & HAJJ EID HOLIDAY

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WEEK	SESSION	DATE	PRACTICAL EXERCISE
1	1		Demonstration and Doing of Mesial (Class III Lingual approach) Cavity Preparation for composite on # 11 and natural tooth.
	2		Mesial (Class III facial approach) Cavity Preparation for composite on # 31 and natural tooth.
2	3		<i>Demonstration and Application of Composite restoration + Composite Restoration of Class III Cavities.</i>
	4		<i>Distal Class IV (Caries) and Mesial Class IV (Traumatic) Cavity Preparations for composite on # 21 and natural tooth.</i>
3	5		Composite Restoration of Class IV cavities
	6		<i>Facial Class V Cavity Preparation for composite on #13 and natural tooth.</i>
4	7		Composite Restoration of Class V cavities
	8		Demonstration and Doing Fissure sealant and PRR Restoration on #27 and natural tooth
5	9		Class I Posterior composite #14 and natural
	10		FORTH PRACTICAL EXAM
6	11		Demonstration on slot and Class II preparations for posterior composite and Doing (M and D) Proximal Slot Preparation and Restoration with Composite resin filling on # 46
	12		(MO Class II) Posterior composite cavity preparation & restoration of #45.
7	13		(MOD Class II) Posterior composite cavity preparation and restoration on natural tooth.

WEEK	SESSION	DATE	PRACTICAL EXERCISE
	14		Demonstration on GIC application in Class V , then Class cavity preparation on tooth #15 and restoration with conventional GIC.
8	15		Demonstration on Compomer Application , then Class V cavity preparation on tooth #33 and restoration with Dyract (Compomer).
	16		Demonstration on Sandwich Technique , then Class V Cavity preparation on tooth # 23 and restoration with Resin modified GIC and composite restoration.
9	17		(MOD Class II) cavity preparation on natural tooth and restored with GIC and Composite Sandwich Technique.
	18		FIFTH PRACTICAL EXAM
10	19		Demonstration and Doing MOD Inlay Preparation for Esthetic Posterior Restoration on # 35
	20		Demonstration and Doing MODL Onlay Preparation for Esthetic Posterior Restoration on # 14
11	21		Demonstration and Doing impression of upper left side then (MO) Inlay Preparation for Cast Gold Alloy # 24
	22		Demonstration and Doing MOD Onlay Preparation for Cast Gold alloy # 46
12	23		MOD Onlay Preparation for Cast Gold Alloy on tooth # 25
	24		Demonstration and Doing Provisional Restoration on tooth # 25
13	25		SIXTH PRACTICAL EXAM
	26		Removing old filling from ext. tooth, cariogenic evaluation.
14	27		(MOD Class II) Amalgam Cavity Preparation on #36 and Restoration.
	28		(MO-DOL) Class II Amalgam Cavity Preparation on #16 and Restoration.
15	29		FINAL PRACTICAL EXAMINATION
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Description of Lectures contents for the First semester

NO.	TITLE	SEQUENCE	CONTENTS	REQ. READING
1	Introduction to the course.	Lesson 1 of 1 Lesson	<ol style="list-style-type: none"> 1. Attendance Checking and assigning Student leader 2. Course description 3. Course requirement and policy 	Course syllabus
2	Isolation and control of the operating field - I	Lessons 1 of 2 Lesson s	<ol style="list-style-type: none"> 1. Goals of isolation 2. Rubber dam isolation. <ol style="list-style-type: none"> a. Advantages and Disadvantages b. Materials and instruments c. Hole size position and position d. Placement step by step 	** Sturdevant's Art and Science of Operative Dentistry, 4 th edition 2002. Pages 444 - 457
3	Isolation and control of the operating field - II	Lesson 2 of 2 Lessons	<ol style="list-style-type: none"> 1. Removal of rubber dam 2. Alternative and additional methods and factors 3. Other isolation techniques 	** Sturdevant's Art and Science of Operative Dentistry, 4 th edition 2002. Pages 457 – 469
4	Class I Amalgam cavity preparation	Lesson 1 of 8 Lessons	<ol style="list-style-type: none"> 1. Introduction of amalgam restoration 2. General considerations 3. Sequence of preparation 4. Different designs 	** Textbook of Operative Dentistry, 3 rd edition. Baum, Phillips & Lund Pages 295- 304 ** Sturdevant's Art and Science of Operative Dentistry, 4 th edition 2002. Pages 671- 679 687- 688 690- 694

5	Class V Amalgam cavity preparation	Lesson 2 of 8 Lessons	<ol style="list-style-type: none"> 1. General considerations 2. Sequence of preparation. 	<p>** Textbook of Operative Dentistry, 3rd edition. Baum, Phillips & Lund Pages 332- 337</p> <p>** Sturdevant's Art and Science of Operative Dentistry, 4th edition 2002. Pages 754 – 758</p>
6	Restoration of Class I and V with amalgam / Finishing and Polishing	Lesson 3 of 8 Lessons	<ol style="list-style-type: none"> 1. Amalgam alloy: contents, proportions, setting, physical properties, marginal deterioration, and amalgamation. 2. Placement of amalgam in the cavity. 3. Restorative Technique. 4. Finishing and polishing. 	<p>** Textbook of Operative Dentistry, 3rd edition Baum, Phillips & Lund Pages 364-375</p> <p>** Fundamentals of Operative Dentistry by Schwartz et al., 2nd ed. Pages 345 - 352 359 - 360</p> <p>** Sturdevant's Art and Science of Operative Dentistry, 4th edition 2002. Pages 679 – 687 688 – 690 694 – 696 758 – 762</p>
7	Class II Amalgam Cavity preparation	Lesson 4 of 8 Lectures	<ol style="list-style-type: none"> 1. General considerations 2. The incipient class II amalgam <ol style="list-style-type: none"> a) outline of the cavity preparations b) sequence of preparation 3. The extended class II amalgam <ol style="list-style-type: none"> a) sequence of preparation 	<p>Textbook of Operative Dentistry, 3rd edition Baum, Phillips & Lund Pages 304 -328</p>

8	Liner and Cements	Lesson 1 of 1 Lesson	<ol style="list-style-type: none"> 1. Define liners and bases and described their desirable properties. 2. Enumerate the indications for cavity liners and bases placed under amalgam and composite resin restorations. 3. Described the reaction of the dental pulp to cavity liners and bases. 4. Described the advantages and disadvantages of various cavity liners and bases. 5. Briefly described the role of dentine adhesive systems as cavity liners. 	<p>** Fundamentals of Operative Dentistry by Schwartz et al., 2nd ed. Pages 91-103</p> <p>** Textbook of Operative Dentistry, 3rd edition. Baum, Phillips & Lund Pages 132 - 153</p>
9	Dental matrices	Lesson 5 of 8 Lessons	<ol style="list-style-type: none"> 1. To define matrices and dental matrices. 2. Understand the uses of dental matrices. 3. To know the ideal requirements of dental matrices. 4. To differentiate between different types of matrices. 5. To know the application of each type of these matrices and to focus on the application and removal of the universal Tofflemire matrix 6. The wooden wedge and their need, the requirements and importance 	<p>** Fundamentals of Operative Dentistry by Schwartz et al., 2nd ed. Pages 336 -345</p> <p>** Textbook of Operative Dentistry, 3rd edition. Baum, Phillips & Lund Pages 341 - 363</p>
10	Restorations of class II with amalgam and finishing and polishing	Lesson 6 of 8 Lessons	<ol style="list-style-type: none"> 1. Condensation of the amalgam restoration. 2. Carving of amalgam and carving instruments. 3. Finishing & polishing of amalgam. 	<p>** Textbook of Operative Dentistry, 3rd edition. Baum, Phillips & Lund Pages 380 – 384 386 – 392</p>

				397 – 398 ** Sturdevant's Art and Science of Operative Dentistry, 4 th edition 2002. Pages 730 – 735
11	Introduction to the Complex Amalgam Restoration + Pin-retained Complex Amalgam Cavity Preparation	Lesson 7 of 8 Lessons	<ol style="list-style-type: none"> 1. Indications , contraindications, advantages, and disadvantages 2. Different techniques. 3. Tooth preparation 4.Explain the different types of pins. 5.Explain the technique of placement of pins 6 Explain the problems with pins and the solutions 	** Sturdevant's Art and Science of Operative Dentistry, 4 th edition 2002. Pages 765 - 785
12	PinLess-retained Complex Amalgam Preparation + Restorative Technique of Complex Amalgam Restoration	Lesson 8 of 8 Lessons	<ol style="list-style-type: none"> 1.Explain the additional means of retention placed in cavities such as retentive grooves, amalgapins, slots, pins, steps, circumferential slots. 2. Restorative Technique, and using different modilites of matrices 	** Sturdevant's Art and Science of Operative Dentistry, 4 th edition 2002. Pages 785 – 795 ** Fundamentals of Operative Dentistry by Schwartz et al., 2 nd ed. Pages 331-335
13	Composite Resin Material Part I: History, Composition, Type, Advantages, Disadvantages, Indications, Contraindications	Lesson 1 of 7 Lessons	<ol style="list-style-type: none"> 1. Terminology, and Historical development. 2. Describe the composition and setting reactions 3. Classification 4. General considerations for composite restorations: indications, contraindications, advantages and disadvantages 	**Handouts ** ** Sturdevant's Art and Science of Operative Dentistry, 4 th edition 2002. Pages 190 – 197 476 – 478 480 - 483

14	Principles of Tooth Preparation for Composite Restoration Class III Composite Resin Cavity Preparation	Lesson 2 of 7 Lessons	<ol style="list-style-type: none"> 1. Tooth Preparation for composite restorations. 2. Types of preparations (General considerations) 3. Tooth preparation for class III composite restorations and comparing between conventional, beveled conventional and modified preparations 4. Indications of the facial and lingual approaches and advantages of lingual one. 	** Sturdevant's Art and Science of Operative Dentistry, 4 th edition 2002. Pages 486 – 492 504 – 514
NO.	TITLE	SEQUENCE	CONTENTS	REQ. READING
1	Class IV, V Composite Resin Cavity Preparations	Lesson 3 of 7 Lessons	<ol style="list-style-type: none"> 1. Define Class IV and V 2. Tooth preparation for Class IV for composite restorations with different designs 3. Tooth preparation for Class V for composite restorations with different designs 	** Sturdevant's Art and Science of Operative Dentistry, 4 th edition 2002. Pages 523 – 526
2	Composite Resin Material II: Etching, Bonding, and Restorative Procedure.	Lesson 4 of 7 Lessons	<ol style="list-style-type: none"> 1. Preparation of operating site. 2. Shade selection. 3. Pulp protection. 4. Acid etch phenomenon. 5. Bonding to enamel and dentin 6. Restorative procedure of class III, IV, and V. 	** Sturdevant's Art and Science of Operative Dentistry, 4 th edition 2002. Pages 483 – 486 492 – 497 514 – 523 526 – 528 533 – 534 ** Fundamentals of Operative Dentistry by Schwartz et al., 2 nd ed. Pages 191 – 194 198 – 207 215 - 216

3	Pit and Fissure Sealant, Preventive Resin Restorations and Minimal Preparations for Posterior Composite	Lesson 5 of 7 Lessons	<ol style="list-style-type: none"> 1. Fissure sealant procedure. 2. Preventive Resin Restoration. 3. Tunnel preparation. 4. Modified Class I 5. Modified Class II (box, slot preparations) 6. Class VI. 	<p>** Pickard's Manual of Operative Dentistry 7th edition. Pages 105 – 111</p> <p>** Fundamentals of Operative Dentistry by Schwartz et al., 2nd ed. Pages 273 – 277 296 – 298</p> <p>** Sturdevant's Art and Science of Operative Dentistry, 4th edition 2002. Pages 547 – 550 557 – 563 543 – 544</p>
4	Direct Posterior Esthetic Restorations	Lesson 6 of 7 Lessons	<ol style="list-style-type: none"> 1. Indication and contraindications, advantages, and disadvantages of posterior composite restorations. 2. Class I and Class II preparations and restorative procedure for direct posterior composite 	<p>** Sturdevant's Art and Science of Operative Dentistry, 4th edition 2002. Pages 539 – 540 544 – 567</p>
5	Glass Ionomer Cement (Material)	Lesson 1 of 3 Lessons	<ol style="list-style-type: none"> 1. Definition. 2. Composition and chemistry 3. Setting reaction. 4. Different types. 	** Handout
6	Glass Ionomer Cement (Clinical Manipulation)	Lesson 2 of 3 Lessons	Clinical manipulation	<p>** Textbook of Operative Dentistry, 3rd edition. Baum, Phillips & Lund Pages 263 – 268</p> <p>** Sturdevant's Art and</p>

				Science of Operative Dentistry, 4 th edition 2002. Pages 535 – 536
7	Resin Modified Glass Ionomer and Compomers	Lesson 3 of 3 Lessons	<ol style="list-style-type: none"> 1. Understanding of differences between conventional GI, resin modified GI, and compomers. 2. Setting reaction of each type. 3. Advantages of resin modified GI over conventional type. 4. Clinical handling of these materials 5. Sandwich technique 	<p>** Handout</p> <p>** Sturdevant's Art and Science of Operative Dentistry, 4th edition 2002. Page 304</p>
8	Indirect Posterior Esthetic Restorations	Lesson 7 of 7 Lessons	<ol style="list-style-type: none"> 1. Resin composite inlays and onlays. 2. Advantages over direct resin composite restorations. 3. Direct resin inlays. 4. Posterior bonded porcelain restoration. 5. Resin composite vs. porcelain. 	<p>** Sturdevant's Art and Science of Operative Dentistry, 4th edition 2002. Pages 571 – 587</p> <p>** Fundamentals of Operative Dentistry by Schwartz et al., 2nd ed. Pages 479 – 489</p>
9	Principles of Tooth Preparation for Cast Gold Restorations	Lesson 1 of 4 Lessons	<ol style="list-style-type: none"> 1. Definitions. 2. Classification of castings 3. Materials for cast restoration 4. Indications, contraindications advantages and disadvantages. 	<p>** Handout</p> <p>** Sturdevant's Art and Science of Operative Dentistry, 4th edition 2002. Pages 801 - 803</p>
10	Tooth Preparation for Cast Gold Inlay Restoration	Lesson 2 of 4 Lessons	<ol style="list-style-type: none"> 1. Indications for this type. 2. Difference between amalgam and inlay preparation. 3. Steps of preparation. 	<p>** Fundamentals of Operative Dentistry by Schwartz et al., 2nd ed. Pages 507 - 509</p>

11	Tooth Preparation for Cast Gold Onlay Restorations	Lesson 3 of 4 Lessons	<ol style="list-style-type: none"> 1. Indications for this type. 2. Understanding the different types of finish lines. 3. Steps of preparation 	** Fundamentals of Operative Dentistry by Schwartz et al., 2 nd ed. Pages 509 - 512
12	Provisional Restoration	Lesson 4 of 4 Lessons	<ol style="list-style-type: none"> 1. Definition. 2. Requirements of provisional restoration 3. Provisional restoration materials. 4. Procedures for fabrication. 	** Sturdevant's Art and Science of Operative Dentistry, 4 th edition 2002. Pages 837 - 843
13	Failure of Restoration	Lesson 1 of 1 Lesson	<ol style="list-style-type: none"> 1. Causes of failure 2. Management of failure restoration <ol style="list-style-type: none"> 1. Repair of old restoration <p>Repair of newly condensed amalgam restorations.</p>	** Handout ** Pickard's Manual of Operative Dentistry 7 th edition. Pages 179 – 184 186 – 188
14	Biological influence of restorative procedures and materials	Lesson 1 of 1 Lesson	<ol style="list-style-type: none"> 1. Described the reaction of dentine-pulp complex to cavity preparation and irritants from restorative materials. 2. Described the reaction of the periodontium to restorations with cervical overhangs as well as those that interfere with occlusion. 3. Described the reaction of the oral mucosa to irritation from rough restoration surfaces and traumatic operative procedures such as placement of rubber dam clasps. 4. List the sources of mercury exposure by man, including the exposure of dental personnel and patients with amalgam restorations. 	** Handouts

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Course Director : Dr. Mohammed Quaid Al-Qahtani [DUC]

211 RDS
Preclinical Operative Dentistry

COURSE DESCRIPTION

This course consists of two main components, the principles of cavity preparations for the currently available restoratives and their physical and manipulative characteristics and cavity restoration. They are provided by the RDS Department during the two semesters of the second year of the RDS program. It is a 1+2+0, equivalent to 3 credit hours course for first semester plus 1 + 2 + 0 for second semester a total of 6 credit hours course.

This module will provide you with an overview of the Operative Dentistry Program, its organization, the kinds of instructional materials you will be using and the types of testing and grading procedures employed.

This course of study is critically important to your future as a practitioner. It prepares you to provide the major portion of dental care to your patients.

It will be a combination of lectures and lab exercises, representing different restorative procedures in Operative Dentistry.

All of the lectures, instructional procedures and materials that you will receive have been designed to help you develop the knowledge, the skills and judgment necessary to achieve the goals of Operative Dentistry Program.

The development and exercise of integrity is as essential to your competency in dental care as in the development of your knowledge and skills.

COURSE GOALS AND OBJECTIVES

1. The primary objectives of this course is to present the basic principles, techniques and rational of operative procedures and apply them.
2. Present a step-by-step procedure for each cavity preparation and cavity restoration.
3. Train the students in different operations (cavity preparation and restoration) by doing specific standardized exercises on Typodont Models mounted on mannequins.
4. Train the students in these operations in a situation similar to the clinical set-up.
5. Train students to recognize their own mistakes, and how to correct them.
6. By the end of this course, the student must be prepared to take the next clinical courses.

ORGANIZATION OF THE COURSE

There are two basic components to this course: class lectures and lab

I. CLASS LECTURES

Most of the knowledge that you will be required to learn will be presented through a variety of formal lectures.

These will be structured to help you understand the reasons behind the procedures that you will be using as well as teach you the basic knowledge you will need to perform the procedures.

- Once a week, the lecture period will begin with a quiz on the previous week's lecture

The Final Quiz grade will be determined by averaging the weekly quizzes, grades, including zero for those quizzes not turned in.

There will also be a mid-term and final examinations.

These exams are also geared to the course objectives and are designed to determine how well you have learned the material and how you are progressing toward achievement of the objectives.

All of these testing procedures form the base for your grade in operative dentistry and are weighted accordingly to their importance.

REQUIRED READING:

- *Sturdevant's Art and Science of Operative Dentistry*, 4th edition 2002
- Baum, Phillips and Lund.. *Textbook of Operative Dentistry*, 3rd edition 1995.
- Pickard manual
Pickard's Manual of Operative Dentistry 7th edition 2000.
- Schwartz et al. *Fundamentals of Operative Dentistry- a contemporary approach*, 2nd edition 2001.
- Hand-outs (if needed)

II. LAB EXERCISES

The laboratory phase of the course is a very important component of your training in Operative Dentistry.

Practice exercises will help you develop skills in Operative Dentistry procedures.

All of the tasks that will be practice in the laboratory must be performed according to specific criteria taught during lectures.

Each exercise is turned in first for evaluation and finally for grading to the appropriate group instructor.

As you practice each of the tasks assigned in the laboratory, you will increase your skills and more well on your way to developing competency.

- **REMEDIATION**

Unacceptable projects must be remediated to an acceptable level by the way of repetition or further exercises assigned by the Course Director.

- **INDEPENDENT TIMED-EXERCISES**

After considerable practice, each student will be tested on the performance of a sequence of procedure. They will be **6 practical exams**.

GRADING:

Lecture and Lab

95 - 100	=	A+
90 - 94	=	A
85 - 89	=	B+
80 - 84	=	B
75 - 79	=	C+
70 - 74	=	C
65 - 69	=	D+
60 - 64	=	D
Below 60	=	F

The student has to achieve a passing grade in both the Didactic and Laboratory Sections of the course to be eligible for promotion.

Examination:

1. Assessment both in theory and practical

The grading in the assessment of theory and practical is divided into the following system.

I.	Theory		
	• Quizzes	:	10%
	• Mid-Year exam	:	15%
II.	Laboratory		
	• Daily projects	:	10%
	• Practical exams	:	20%
	• Subjective Evaluation	:	5%
	Total -----		<u>60%</u>

2. Final examination

Final examination is computed as follows:

	• Final written	:	25%
	• Final practical	:	15%
			<u>40%</u>

Evaluation Methods:

- All preparations and restorations listed on the progress sheet will be approved and graded by the designed instructor.
- All timed practical exercises will be completed during assigned laboratory periods.
- Written examinations will be based on the LECTURE MATERIAL; HAND-OUTS, READING ASSIGNMENT, PRINT-OUT and information given during lab sessions.

GRADING CRITERIA STATEMENT

The following criteria will be used in evaluating student lab work:

- 1) ATTENDANCE: All students are expected to be in the lab during those times designated for unit laboratory.
 - a. Attendance will be taken during the sessions.
 - b. Completion of all projects is a requirement for oral and lab exams.
- 2) PREPARATION CRITERIA: Each exercise is turned in at a fixed time, corrected by enumerating the mistakes. The student is then asked to correct the mistakes or to do it over.
- 3) The following will be considered as a basis for a **FAILURE**:
 - a. Adjacent teeth damaged during preparation.
 - b. Examination tooth or any adjacent teeth removed during the preparation.
 - c. Over-preparation and under-preparation of teeth which would result in :
 - i. Inability of the preparation to be restored effectively with the material for which the preparation was intended.
 - ii. Any damage to the tooth which, in actual clinical practice, would result in the necessity to perform root canal treatment or surgical removal of the tooth.
 - d. Preparation partly or entirely done by any individual other than the student who is submitting the work.

LABORATORY EVALUATION:

Criteria based on Point System

*Unacceptable = redo
Below average = less than desirable
Acceptable = improvement recommended
Above average = needs minor correction
Excellent = maintain this level of performance

* Exercise to be repeated for re-evaluation.

- Project may be done, if missed during one's own time with genuine excuse.
- Examination may be re-taken with genuine excuse and permission from Administration (Dean or Vice-Dean).
- These "grades" will be recorded on your individual progress sheets.
- There will be no redo for missed quizzes with excuse and the average grade will be divided by the number of quizzes minus one.

OTHER REQUIREMENTS:

Class representative, chosen from the class, will be responsible for photocopying hand-outs and print-outs. There may at times be needed for class purchase which will be communicated to the class representative in advance.

Students will be required to possess the following during all laboratory session.

- a. Disposable gloves (natural teeth)
- b. Disposable masks
- c. Protection glasses

The following items must be purchased by each student:

1. Pencil
2. Extra-fine permanent markers (red, black, green)

*** Students will be required to provide natural teeth for the tooth colored exercises:

- 4 molars (upper or lower)
- 2 Pre-molar (upper or lower)
- 4 anterior (upper or lower)

You will be given precise instructions on mounting these teeth by your group supervisors.

GOOD LUCK AND REMEMBER WE WILL HELP YOU IN EVERYWAY POSSIBLE
THE REST IS UP TO YOU.

KING SAUD UNIVERSITY
College of Dentistry
Department of Restorative Dental Sciences
DIVISION OF OPERATIVE DENTISTRY

211 RDS
LECTURE OUTLINE
Academic Year _____

First Semester

Course Director: Dr. Mohammed Quaid Al-Qahtani [DUC]

WEEK	DATE	LECTURE TOPIC	LECTURER
1		Introduction to the Course, Attendance Checking, Information	
2		Isolation and control of the operating field - I	
3		Isolation and control of the operating field - II	
4		Class I Amalgam Cavity Preparation	
5		Class V Amalgam Cavity Preparation	
6		Restoration of Class I and Class V with Amalgam / Finishing and Polishing of Amalgam Restorations	
7		Class II Amalgam Cavity Preparation	
8		Pulp Protection by the Use of Insulating Bases and Liners	
9		Dental Matrices: Definition, Uses, Requirements, Types and their Application	
-----		RAMADAN EID VACATION	
10		Restoration of Class II, Finishing and Polishing Amalgam	
11		Introduction to the Complex Amalgam Restoration + Pin-retained Complex Amalgam Cavity Preparation	
12		PinLess-retained Complex Amalgam Preparation + Restorative Technique of Complex Amalgam Restoration	
13		Composite Resin Material Part I: History, Composition, Type, Advantages, Disadvantages, Indications, Contraindications	
14		Principles of Tooth Preparation for Composite Restoration Class III Composite Resin Cavity Preparation	
15		MID-YEAR EXAMINATION	
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KING SAUD UNIVERSITY
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211 RDS
LECTURE OUTLINE
Academic Year _____

Second Semester

Course Director: Dr. Mohammed Quaid Al-Qahtani [DUC]

WEEK	DATE	LECTURE TOPIC	LECTURER
1		Class IV, V Composite Resin Cavity Preparations	
2		Composite Resin Material II: Etching, Bonding, and Restorative Procedure	
3		Pit and Fissure Sealant, Preventive Resin Restorations and Minimal Preparations for Posterior Composite	
4		Direct Posterior Esthetic Restorations	
5		Glass Ionomer Cement (Material)	
6		Glass Ionomer Cement (Clinical Manipulation)	
7		Resin Modified Glass Ionomer and Compomers	
8		Indirect Posterior Esthetic Restorations	
9		Principles of Tooth Preparation for Cast Gold Restorations	
10		Tooth Preparation for Cast Gold Inlay Restoration	
11		Tooth Preparation for Cast Gold Onlay Restorations	
12		Provisional Restoration	
13		Failure of Restoration	
14		Biological Influence of Restorative Procedures and Materials	
15		Lectures Review	

King Saud University
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211 RDS
PRACTICAL COURSE OUTLINE
Academic Year _____

First Semester

Course Director: Dr. Mohammed Quaid Al-Qahtani [DUC]

WEEK	SESSION	DATE	PRACTICAL EXERCISE
1	1		Introduction to the Course, Distribution of Instruments, Demonstration on Seating Position, Occlusal Adjustment of Typodont Models
	2		Occlusal Adjustment of Typodont Models (continue), Demonstration on Rotary and Hand Cutting Instruments
2	3		Introduction to Instrumentation of Ivorine Teeth
	4		Demonstration and Application of RD on Mandibular Teeth
3	5		Demonstration and Application of RD on Maxillary Teeth
	6		Demonstration and Doing Occlusal (Class I) Amalgam Cavity Preparation on # 46
4	7		Occlusal (Class I) and Buccal pit Amalgam Cavity Preparations on # 37
	8		Demonstration on indirect working on maxillary teeth and Occlusal surface (Class I) Cavity Preparation on #24
5	9		Occlusal Amalgam (Class I) Cavity Preparation on # 26
	10		Demonstration and Doing Cervical (Class V) Amalgam Cavity Preparation on # 35
6	11		Demonstration and Doing Occlusal (Class I) Amalgam Restorations on teeth # 46
	12		Occlusal (Class I) Amalgam Restorations on teeth # 24, # 26
7	13		Occlusal and Cervical Amalgam (Class I and V) Restoration #35, #37
	14		Demonstration on Finishing and Polishing of Amalgam Restoration and F/ P of these restorations on teeth # 24, 26, 35, 37, and 46
8	15		FIRST PRACTICAL EXAM
	16		Demonstration and Doing (MO Class II) Amalgam Cavity Preparation on # 36
9	17		Demonstration and Application of Bases and Liners on Natural Teeth
	18		(MOD Class II) Amalgam Cavity Preparation on # 45
			RAMADAN VACATION

WEEK	SESSION	DATE	PRACTICAL EXERCISE
10	19		MODL Class II Amalgam preparation #16.
	20		Matrix Formation and Placement then Amalgam Restoration #36 (MO)
11	21		Amalgam Restroation of tooth # 45 (MOD)
	22		Double Matrix Technique (Demonstration) then Amalgam Restoration #16 (MODL).
12	23		Finishing and Polishing of # 16, # 45 & # 36
	24		SECOND PRACTICAL EXAMINATION
13	25		MODL Amalgam Cavity Preparation of Tooth #17 with DL Cusp Reduction and MB Cusp Removal-using slot
	26		MOD Amalgam cavity preparation on tooth # 46 with MB Cusp Removal and DL Cusp Reduction- using pin
14	27		Copper Band Placement (Demonstration) then Amalgam Restoration # 46 MOD with MB Cusp Removal and DL Cusp Reduction- using pin
	28		MOD Amalgam Cavity Preparation of Natural Tooth , Removal of Two Cusps and Cusp Reduction with Slot and Pin + Finishing and Polishing of Amalgam Restoration # 46.
15	29		THIRD PRACTICAL EXAM
			MID YEAR BREAK & HAJJ EID HOLIDAY

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211 RDS
PRACTICAL COURSE OUTLINE
Academic Year _____

Second Semester

Course Director: Dr. Mohammed Quaid Al-Qahtani [DUC]

WEEK	SESSION	DATE	PRACTICAL EXERCISE
1	1		Demonstration and Doing of Mesial (Class III Lingual approach) Cavity Preparation for composite on # 11 and natural tooth.
	2		Mesial (Class III facial approach) Cavity Preparation for composite on # 31 and natural tooth.
2	3		<i>Demonstration and Application of Composite restoration + Composite Restoration of Class III Cavities.</i>
	4		<i>Distal Class IV (Caries) and Mesial Class IV (Traumatic) Cavity Preparations for composite on # 21 and natural tooth.</i>
3	5		Composite Restoration of Class IV cavities
	6		<i>Facial Class V Cavity Preparation for composite on #13 and natural tooth.</i>
4	7		Composite Restoration of Class V cavities
	8		Demonstration and Doing Fissure sealant and PRR Restoration on #27 and natural tooth
5	9		Class I Posterior composite #14 and natural
	10		FORTH PRACTICAL EXAM
6	11		Demonstration on slot and Class II preparations for posterior composite and Doing (M and D) Proximal Slot Preparation and Restoration with Composite resin filling on # 46
	12		(MO Class II) Posterior composite cavity preparation & restoration of #45.
7	13		(MOD Class II) Posterior composite cavity preparation and restoration on natural tooth.

WEEK	SESSION	DATE	PRACTICAL EXERCISE
	14		Demonstration on GIC application in Class V , then Class cavity preparation on tooth #15 and restoration with conventional GIC.
8	15		Demonstration on Compomer Application , then Class V cavity preparation on tooth #33 and restoration with Dyract (Compomer).
	16		Demonstration on Sandwich Technique , then Class V Cavity preparation on tooth # 23 and restoration with Resin modified GIC and composite restoration.
9	17		(MOD Class II) cavity preparation on natural tooth and restored with GIC and Composite Sandwich Technique.
	18		FIFTH PRACTICAL EXAM
10	19		Demonstration and Doing MOD Inlay Preparation for Esthetic Posterior Restoration on # 35
	20		Demonstration and Doing MODL Onlay Preparation for Esthetic Posterior Restoration on # 14
11	21		Demonstration and Doing impression of upper left side then (MO) Inlay Preparation for Cast Gold Alloy # 24
	22		Demonstration and Doing MOD Onlay Preparation for Cast Gold alloy # 46
12	23		MOD Onlay Preparation for Cast Gold Alloy on tooth # 25
	24		Demonstration and Doing Provisional Restoration on tooth # 25
13	25		SIXTH PRACTICAL EXAM
	26		Removing old filling from ext. tooth, cariogenic evaluation.
14	27		(MOD Class II) Amalgam Cavity Preparation on #36 and Restoration.
	28		(MO-DOL) Class II Amalgam Cavity Preparation on #16 and Restoration.
15	29		FINAL PRACTICAL EXAMINATION
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Description of Lectures contents for the First semester

NO.	TITLE	SEQUENCE	CONTENTS	REQ. READING
1	Introduction to the course.	Lesson 1 of 1 Lesson	<ol style="list-style-type: none"> 1. Attendance Checking and assigning Student leader 2. Course description 3. Course requirement and policy 	Course syllabus
2	Isolation and control of the operating field - I	Lessons 1 of 2 Lesson s	<ol style="list-style-type: none"> 1. Goals of isolation 2. Rubber dam isolation. <ol style="list-style-type: none"> a. Advantages and Disadvantages b. Materials and instruments c. Hole size position and position d. Placement step by step 	** Sturdevant's Art and Science of Operative Dentistry, 4 th edition 2002. Pages 444 - 457
3	Isolation and control of the operating field - II	Lesson 2 of 2 Lessons	<ol style="list-style-type: none"> 1. Removal of rubber dam 2. Alternative and additional methods and factors 3. Other isolation techniques 	** Sturdevant's Art and Science of Operative Dentistry, 4 th edition 2002. Pages 457 – 469
4	Class I Amalgam cavity preparation	Lesson 1 of 8 Lessons	<ol style="list-style-type: none"> 1. Introduction of amalgam restoration 2. General considerations 3. Sequence of preparation 4. Different designs 	** Textbook of Operative Dentistry, 3 rd edition. Baum, Phillips & Lund Pages 295- 304 ** Sturdevant's Art and Science of Operative Dentistry, 4 th edition 2002. Pages 671- 679 687- 688 690- 694

5	Class V Amalgam cavity preparation	Lesson 2 of 8 Lessons	<ol style="list-style-type: none"> 1. General considerations 2. Sequence of preparation. 	<p>** Textbook of Operative Dentistry, 3rd edition. Baum, Phillips & Lund Pages 332- 337</p> <p>** Sturdevant's Art and Science of Operative Dentistry, 4th edition 2002. Pages 754 – 758</p>
6	Restoration of Class I and V with amalgam / Finishing and Polishing	Lesson 3 of 8 Lessons	<ol style="list-style-type: none"> 1. Amalgam alloy: contents, proportions, setting, physical properties, marginal deterioration, and amalgamation. 2. Placement of amalgam in the cavity. 3. Restorative Technique. 4. Finishing and polishing. 	<p>** Textbook of Operative Dentistry, 3rd edition Baum, Phillips & Lund Pages 364-375</p> <p>** Fundamentals of Operative Dentistry by Schwartz et al., 2nd ed. Pages 345 - 352 359 - 360</p> <p>** Sturdevant's Art and Science of Operative Dentistry, 4th edition 2002. Pages 679 – 687 688 – 690 694 – 696 758 – 762</p>
7	Class II Amalgam Cavity preparation	Lesson 4 of 8 Lectures	<ol style="list-style-type: none"> 1. General considerations 2. The incipient class II amalgam <ol style="list-style-type: none"> a) outline of the cavity preparations b) sequence of preparation 3. The extended class II amalgam <ol style="list-style-type: none"> a) sequence of preparation 	<p>Textbook of Operative Dentistry, 3rd edition Baum, Phillips & Lund Pages 304 -328</p>

8	Liner and Cements	Lesson 1 of 1 Lesson	<ol style="list-style-type: none"> 1. Define liners and bases and described their desirable properties. 2. Enumerate the indications for cavity liners and bases placed under amalgam and composite resin restorations. 3. Described the reaction of the dental pulp to cavity liners and bases. 4. Described the advantages and disadvantages of various cavity liners and bases. 5. Briefly described the role of dentine adhesive systems as cavity liners. 	<p>** Fundamentals of Operative Dentistry by Schwartz et al., 2nd ed. Pages 91-103</p> <p>** Textbook of Operative Dentistry, 3rd edition. Baum, Phillips & Lund Pages 132 - 153</p>
9	Dental matrices	Lesson 5 of 8 Lessons	<ol style="list-style-type: none"> 1. To define matrices and dental matrices. 2. Understand the uses of dental matrices. 3. To know the ideal requirements of dental matrices. 4. To differentiate between different types of matrices. 5. To know the application of each type of these matrices and to focus on the application and removal of the universal Tofflemire matrix 6. The wooden wedge and their need, the requirements and importance 	<p>** Fundamentals of Operative Dentistry by Schwartz et al., 2nd ed. Pages 336 -345</p> <p>** Textbook of Operative Dentistry, 3rd edition. Baum, Phillips & Lund Pages 341 - 363</p>
10	Restorations of class II with amalgam and finishing and polishing	Lesson 6 of 8 Lessons	<ol style="list-style-type: none"> 1. Condensation of the amalgam restoration. 2. Carving of amalgam and carving instruments. 3. Finishing & polishing of amalgam. 	<p>** Textbook of Operative Dentistry, 3rd edition. Baum, Phillips & Lund Pages 380 – 384 386 – 392</p>

				397 – 398 ** Sturdevant’s Art and Science of Operative Dentistry, 4 th edition 2002. Pages 730 – 735
11	Introduction to the Complex Amalgam Restoration + Pin-retained Complex Amalgam Cavity Preparation	Lesson 7 of 8 Lessons	<ol style="list-style-type: none"> 1. Indications , contraindications, advantages, and disadvantages 2. Different techniques. 3. Tooth preparation 4.Explain the different types of pins. 5.Explain the technique of placement of pins 6 Explain the problems with pins and the solutions 	** Sturdevant’s Art and Science of Operative Dentistry, 4 th edition 2002. Pages 765 - 785
12	PinLess-retained Complex Amalgam Preparation + Restorative Technique of Complex Amalgam Restoration	Lesson 8 of 8 Lessons	<ol style="list-style-type: none"> 1.Explain the additional means of retention placed in cavities such as retentive grooves, amalgapins, slots, pins, steps, circumferential slots. 2. Restorative Technique, and using different modilites of matrices 	** Sturdevant’s Art and Science of Operative Dentistry, 4 th edition 2002. Pages 785 – 795 ** Fundamentals of Operative Dentistry by Schwartz et al., 2 nd ed. Pages 331-335
13	Composite Resin Material Part I: History, Composition, Type, Advantages, Disadvantages, Indications, Contraindications	Lesson 1 of 7 Lessons	<ol style="list-style-type: none"> 1. Terminology, and Historical development. 2. Describe the composition and setting reactions 3. Classification 4. General considerations for composite restorations: indications, contraindications, advantages and disadvantages 	**Handouts ** ** Sturdevant’s Art and Science of Operative Dentistry, 4 th edition 2002. Pages 190 – 197 476 – 478 480 - 483

14	Principles of Tooth Preparation for Composite Restoration Class III Composite Resin Cavity Preparation	Lesson 2 of 7 Lessons	<ol style="list-style-type: none"> 1. Tooth Preparation for composite restorations. 2. Types of preparations (General considerations) 3. Tooth preparation for class III composite restorations and comparing between conventional, beveled conventional and modified preparations 4. Indications of the facial and lingual approaches and advantages of lingual one. 	** Sturdevant's Art and Science of Operative Dentistry, 4 th edition 2002. Pages 486 – 492 504 – 514
NO.	TITLE	SEQUENCE	CONTENTS	REQ. READING
1	Class IV, V Composite Resin Cavity Preparations	Lesson 3 of 7 Lessons	<ol style="list-style-type: none"> 1. Define Class IV and V 2. Tooth preparation for Class IV for composite restorations with different designs 3. Tooth preparation for Class V for composite restorations with different designs 	** Sturdevant's Art and Science of Operative Dentistry, 4 th edition 2002. Pages 523 – 526
2	Composite Resin Material II: Etching, Bonding, and Restorative Procedure.	Lesson 4 of 7 Lessons	<ol style="list-style-type: none"> 1. Preparation of operating site. 2. Shade selection. 3. Pulp protection. 4. Acid etch phenomenon. 5. Bonding to enamel and dentin 6. Restorative procedure of class III, IV, and V. 	** Sturdevant's Art and Science of Operative Dentistry, 4 th edition 2002. Pages 483 – 486 492 – 497 514 – 523 526 – 528 533 – 534 ** Fundamentals of Operative Dentistry by Schwartz et al., 2 nd ed. Pages 191 – 194 198 – 207 215 - 216

3	Pit and Fissure Sealant, Preventive Resin Restorations and Minimal Preparations for Posterior Composite	Lesson 5 of 7 Lessons	<ol style="list-style-type: none"> 1. Fissure sealant procedure. 2. Preventive Resin Restoration. 3. Tunnel preparation. 4. Modified Class I 5. Modified Class II (box, slot preparations) 6. Class VI. 	<p>** Pickard's Manual of Operative Dentistry 7th edition. Pages 105 – 111</p> <p>** Fundamentals of Operative Dentistry by Schwartz et al., 2nd ed. Pages 273 – 277 296 – 298</p> <p>** Sturdevant's Art and Science of Operative Dentistry, 4th edition 2002. Pages 547 – 550 557 – 563 543 – 544</p>
4	Direct Posterior Esthetic Restorations	Lesson 6 of 7 Lessons	<ol style="list-style-type: none"> 1. Indication and contraindications, advantages, and disadvantages of posterior composite restorations. 2. Class I and Class II preparations and restorative procedure for direct posterior composite 	<p>** Sturdevant's Art and Science of Operative Dentistry, 4th edition 2002. Pages 539 – 540 544 – 567</p>
5	Glass Ionomer Cement (Material)	Lesson 1 of 3 Lessons	<ol style="list-style-type: none"> 1. Definition. 2. Composition and chemistry 3. Setting reaction. 4. Different types. 	** Handout
6	Glass Ionomer Cement (Clinical Manipulation)	Lesson 2 of 3 Lessons	Clinical manipulation	<p>** Textbook of Operative Dentistry, 3rd edition. Baum, Phillips & Lund Pages 263 – 268</p> <p>** Sturdevant's Art and</p>

				Science of Operative Dentistry, 4 th edition 2002. Pages 535 – 536
7	Resin Modified Glass Ionomer and Compomers	Lesson 3 of 3 Lessons	<ol style="list-style-type: none"> 1. Understanding of differences between conventional GI, resin modified GI, and compomers. 2. Setting reaction of each type. 3. Advantages of resin modified GI over conventional type. 4. Clinical handling of these materials 5. Sandwich technique 	<p>** Handout</p> <p>** Sturdevant's Art and Science of Operative Dentistry, 4th edition 2002. Page 304</p>
8	Indirect Posterior Esthetic Restorations	Lesson 7 of 7 Lessons	<ol style="list-style-type: none"> 1. Resin composite inlays and onlays. 2. Advantages over direct resin composite restorations. 3. Direct resin inlays. 4. Posterior bonded porcelain restoration. 5. Resin composite vs. porcelain. 	<p>** Sturdevant's Art and Science of Operative Dentistry, 4th edition 2002. Pages 571 – 587</p> <p>** Fundamentals of Operative Dentistry by Schwartz et al., 2nd ed. Pages 479 – 489</p>
9	Principles of Tooth Preparation for Cast Gold Restorations	Lesson 1 of 4 Lessons	<ol style="list-style-type: none"> 1. Definitions. 2. Classification of castings 3. Materials for cast restoration 4. Indications, contraindications advantages and disadvantages. 	<p>** Handout</p> <p>** Sturdevant's Art and Science of Operative Dentistry, 4th edition 2002. Pages 801 - 803</p>
10	Tooth Preparation for Cast Gold Inlay Restoration	Lesson 2 of 4 Lessons	<ol style="list-style-type: none"> 1. Indications for this type. 2. Difference between amalgam and inlay preparation. 3. Steps of preparation. 	<p>** Fundamentals of Operative Dentistry by Schwartz et al., 2nd ed. Pages 507 - 509</p>

11	Tooth Preparation for Cast Gold Onlay Restorations	Lesson 3 of 4 Lessons	<ol style="list-style-type: none"> 1. Indications for this type. 2. Understanding the different types of finish lines. 3. Steps of preparation 	** Fundamentals of Operative Dentistry by Schwartz et al., 2 nd ed. Pages 509 - 512
12	Provisional Restoration	Lesson 4 of 4 Lessons	<ol style="list-style-type: none"> 1. Definition. 2. Requirements of provisional restoration 3. Provisional restoration materials. 4. Procedures for fabrication. 	** Sturdevant's Art and Science of Operative Dentistry, 4 th edition 2002. Pages 837 - 843
13	Failure of Restoration	Lesson 1 of 1 Lesson	<ol style="list-style-type: none"> 1. Causes of failure 2. Management of failure restoration <ol style="list-style-type: none"> 1. Repair of old restoration <p>Repair of newly condensed amalgam restorations.</p>	** Handout ** Pickard's Manual of Operative Dentistry 7 th edition. Pages 179 – 184 186 – 188
14	Biological influence of restorative procedures and materials	Lesson 1 of 1 Lesson	<ol style="list-style-type: none"> 1. Described the reaction of dentine-pulp complex to cavity preparation and irritants from restorative materials. 2. Described the reaction of the periodontium to restorations with cervical overhangs as well as those that interfere with occlusion. 3. Described the reaction of the oral mucosa to irritation from rough restoration surfaces and traumatic operative procedures such as placement of rubber dam clasps. 4. List the sources of mercury exposure by man, including the exposure of dental personnel and patients with amalgam restorations. 	** Handouts

