Republic of Yemen
Ministry of Education & Scientific Research
University of 21 September University of Medical & Applied Sciences, Yemen.

الجمهورية اليمنية
وزارة التربية والتعليم والبحث العلمي
جامعة 21 سبتمبر للعلوم الطبية والتطبيقية، اليمن.

Republic of Yemen

Ministry of Education & Scientific Research

Faculty of Dentistry

Department of Operative Dentistry

Bachelor Program of Dental Surgery BDS

Course Specification of

Clinical Operative Dentistry 2

Course No. (09.14.950)

I. General Information:

1.	Course Title:	Clinical Operative Dentistry 2				
2.	Course Code:	09.14.950				
3.	Credit Hours:	Credit Hours	Theory Contact Hours		Practical Contact Hours	
			Lecture	Tutorial/ Seminar	Lab	Clinical
		2	1	--	--	3
4.	Level/ Semester at which this Course is offered:	Level 4/ Semester (1)				
5.	Prerequisite (if any):	Clinical Operative Dentistry 1				
6.	Co–Requisite (if any):	None				
7.	Program (s) in which the Course is Offered:	Bachelor of Dental Surgery (B.D.S).				
8.	Medium of Instruction:	English				
9.	Study System:	Semester Based System				
10.	Mode of Delivery:	Theoretical knowledge and practical skills				
11.	Location of Teaching the Course:	University of 21 September University of Medical & Applied Sciences, Yemen.				
12.	Prepared by:	Professor Abdulwahab Ismail Al-kholani				
13	Date of Approval:	2025				

II. Course Description:

II. Course Description:

This course in **Restorative Dentistry** equips students with essential knowledge and practical skills in restorative techniques, focusing on adhesion, composite resins, and minimal invasive dentistry. Key topics include adhesive bonding systems, preventive resin restorations, management of non-carious cervical lesions, and dentin hypersensitivity. Students will also explore the restoration of endodontically treated teeth, management of discolored teeth, and esthetic procedures like porcelain veneers. The course introduces advanced technologies such as diode lasers and digital dentistry (DSD, CAD/CAM restorations).

By the end, students will be proficient in selecting restorative materials, applying minimal invasive techniques, managing clinical challenges, and utilizing modern technologies in restorative procedures.

III. Course Intended Learning Outcomes (CILOs): Upon successful completion of the course, students will be able to:		Referenced PILOs		
A. Knowledge and Understanding:		**I, A or E**		
a1	Discuss the concept of adhesive dentistry, adhesion mechanisms, each indication, and the advantages and drawbacks.			A6
a2	Describe the management techniques for discoloured teeth.			A4
B. Intellectual Skills:				
b1	Determine the etiology of postoperative hypersensitivity and pain after a recent operative procedure.			B2
b2	Identify the aesthetic requirements of patients and the possibility of resolving their concerns			B3
C. Professional and Practical Skills:				

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Professor
Abdulwahab Ismail
Al-kholani

Reviewed by:

Assoc Prof.
Abdulhameed
Ashujaa

III. Course Intended Learning Outcomes (CILOs): Upon successful completion of the course, students will be able to:				Referenced PILOs
c1	Efficiently control the aesthetic restorative materials within the concept of adhesive cavity design and implement all the materials required for restoring the shape, function, and aesthetics of the tooth in patients of all ages.			C7
c4	Develop a treatment plan to manage badly broken down vital and nonvital teeth and Patient complaints professionally			C1
D. Transferable Skills:				
d1	Communicate with dental assistants and colleagues ethically and professionally.			D3
d3	Effectively communicate the treatment details to the patient to maintain a good dentist-patient relationship and provide the best treatment possible within the prescribed time limits.			D7, D4 D2

IV. Alignment of Course Intended Learning Outcomes to Teaching Strategies and Assessment Methods:

(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	Discuss the concept of adhesive dentistry, adhesion mechanisms, each indication, and the advantages and drawbacks.	Lectures Self-learning Presentation	Written Exams, Oral discussion Quizzes
a2	Describe the management techniques for discoloured teeth.		

(B) Alignment of Course Intended Learning Outcomes (Intellectual Skills) to Teaching

Strategies and Assessment Methods:			
	Course Intended Learning Outcomes	**Teaching Strategies**	**Assessment Strategies**
b1	Determine the etiology of postoperative hypersensitivity and pain after a recent operative procedure.	Lectures Case presentation Discussion	Written Exams Practical Exams Oral Discussions Quizzes
b2	Identify the aesthetic requirements of patients and the possibility of resolving their concerns		
(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	Efficiently control the aesthetic restorative materials within the concept of adhesive cavity design and implement all the materials required for restoring the shape, function, and aesthetics of the tooth in patients of all ages.	Practical Sessions Presentation Problem Based Learning (PBL) Training	OSCE &OSPE Oral discussion Practical Exams
c4	Develop a treatment plan to manage badly broken down vital and nonvital teeth and Patient complaints professionally		
(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 with dental assistants and colleagues ethically and professionally.	Seminars Presentation Self-learning	Homework mid and final terms and quizzes Oral discussion Practical Exams
d2	Effectively communicate the treatment details to the patient to maintain a good dentist-patient relationship and provide the best treatment possible within the prescribed time limits.		

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Subtopics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	**Adhesion in Restorative Dentistry**	– History & Development, – Classification of bonding systems, – Generations, Adhesion strategies and techniques.	1 week	1	a1, a2, b1, c1, d2
2	**Applied Composite Resins**	- Clinical aspects of Composite Resin material	1 week	1	a2, b2, c1, c2, d2
3	**Concepts of Minimal Invasive Dentistry**	– Definition – Minimal Preparation and Caries management for Posterior teeth * Noninvasive * Micro invasive * Minimally invasive ART, PPR,	2 weeks	2	a1, a2, b2, c1, d2
4	**Preventive Resin Restorations (PRR)**	– Pit and Fissures Sealants – Indication & contraindications – Materials – Fissures Sealant procedure – Class VI preparation	1 week	1	a2, b2, c2, d1
5	**Management of Non-Carious Cervical Lesions**	– Definition of NCCL, – cervical erosion, abrasion and abfraction. – Etiological causes – Clinical features of NCCL – Treatment strategies: – Type of restorative materials – Restoration of Cervical lesions:	1 week	1	a1, a1, b2, c2, d2

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Subtopics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
		- (Non-aesthetic & aesthetic Restorative methods).			
6	**Dentin Hyper-sensitivity and Post Restorative Pain**	– Definition – Etiology – Diagnosis – Management of hypersensitive teeth	1 week	1	a1, a2, b1, c1, d2
7	**Midterm Theoretical Examination**	**MCQs and essay questions**	1 week	1	a1, a2, c1, b1,
8	**Restoration of Endodontically treated teeth**	– Management of destructed nonvital teeth – Tooth preparation – Retention methods	1 week	1	a2, b2, c2, d2
9	**Management of discolored teeth**	– Discoloration & Bleaching – Indications and contraindication – Mechanism of bleaching – Materials used – Different methods of bleaching (bleaching- laminate- Micro abrasion). – Advantages and disadvantages – Clinical steps – Aesthetic consideration.	2 weeks	2	a1, a2, b1, b2, c2, d2
10		– Definition	1 week	1	a1, b1,

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Subtopics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
	Fractured Tooth (Cracked Tooth Syndrome)	– Etiology and types of tooth fracture (classification) – Signs and Symptoms – Diagnosis & Management – Prevention and prognosis			c2, d2
11	**Anterior esthetic restorations**	– Direct composite veneer – different clinical applications – Porcelain Veneers**:** - Indications and contra indications - Clinical technique - Delivery and cementation - Finishing and polishing	1 week	1	a1, a2, b2, c1, c2, d1, d2
12	**Diode Laser in Dentistry**	– New restorative materials and equipment – Laser application in operative dentistry	1 week	1	a 2, b2, b1, d2
13	**Introduction to Digital Dentistry**	– New restorative materials and equipment – – Digital Smile Design (DSD) – CAD CAM Restorations	1 weeks	1	a 2, b2, c1, d1, d2
14	**Final Theoretical Examination**	**MCQs and essay questions**	1 week	1	a1, a2, b1, b2
Number of Weeks /and Units Per Semester			**16**	**16**	

Prepared by:

Professor
Abdulwahab Ismail
Al-kholani

Reviewed by:

Assoc Prof.
Abdulhameed
Ashujaa

B. Case Studies and Practical Aspect:

No.	Tasks/ Experiments	Weekly Due	Contact Hours	Learning Outcomes (CILOs)
1	- Compound & complex cavity preparation and restoration using direct restorations (Amalgam and **Composite)**	**1st to 14th**	**2 Hours per week**	**b 2, c1, c2, d1, d2**
2	- Treating defective restorations and Restoring Complex cavities**.** - pin - retained amalgam restoration. **- Tooth build-up with post system.**	**1st to 14th**	**2 Hours per week**	c1, c2, d1, d2
3	- Preparation and restoration of class IV (silicone keys)	1st to 14th	2 Hours per week	b2, c1, c2, d1, d2
4	- Full resin-based composite coverage of tooth (direct composite veneers)	**1st to 14th**	**2 Hours per week**	b2, c1, c2, d1, d2
5	- Bleaching of discolored teeth	**1st to 14th**	**2 Hours per week**	b 1, b2, c1, c2, d1, d2
6	- Minimal intervention dentistry preventive resin restorations, ART, PPR, PFS.	1st to 14th	2 Hours per week	b 1, b2, c1, c2, d1, d2
Total number of weeks and hours		14	28	
Number of Weeks /and Units Per Semester				

C. Tutorial Aspect:

Prepared by:

Professor
Abdulwahab Ismail
Al-kholani

Reviewed by:

Assoc Prof.
Abdulhameed
Ashujaa

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	**Adhesion in Restorative Dentistry** – Clinical application of bonding agents, hands-on demonstration of different bonding strategies, and comparison of adhesive systems.	**First Week**	1	a1, a2, b1, c1, d1
2	**Applied Composite Resins** – Hands-on composite resin placement, shade selection, incremental layering, finishing, and polishing.	**Second Week**	1	a 2, b2, c1, c2, d2
3	**Concepts of Minimally Invasive Dentistry** – Hands-on ART (Atraumatic Restorative Treatment), micro-invasive procedures, and sealant applications.	**Third & Fourth Week**	2	a1, a2, b2, c1, d2
4	**Preventive Resin Restorations** – Practical application of pit and fissure sealants and Class VI composite restorations.	**Fifth Week**	1	a2, b2, c2, d1
5	**Management of Non-Carious Cervical Lesions (NCCL)** – Hands-on restoration of cervical lesions using different restorative materials.	**Sixth Week**	1	a1, a2, b2, c1, d2
6	**Dentin Hypersensitivity and Post-Restorative Pain** – Clinical diagnosis and management of hypersensitivity, including desensitizing techniques and materials.	**Seventh Week**	1	a1, a2, b1, c1, d2
7	**Restoration of Endodontically Treated Teeth** – Hands-on post and core buildup techniques, selection of retention systems.	**Eighth Week**	1	a2, b1, c2, d2
8	**Management of Discolored Teeth** – Hands-on bleaching techniques (in-office and take-home), veneer preparation, and shade matching.	**Ninth & Tenth Week**	2	a1, a2, b1, b2, c1, d2
9	**Fractured Tooth (Cracked Tooth Syndrome)** – Diagnosis using transillumination, bite tests, and management techniques including fiber-reinforced composites.	**Eleventh Week**	1	a1, b2, c2, d2
10	**Anterior Esthetic Restorations** – Direct composite veneers and porcelain veneer placement, cementation, and polishing.	**Twelfth Week**	1	a1, a2, b2, c1, c2, d1, d2
11	**Diode Laser in Dentistry** – Hands-on demonstration of laser applications in cavity preparation and soft tissue management.	**Thirteenth Week**	1	a2, b1, b2, d1, d2

C. Tutorial Aspect:				
No.	**Tutorial**	**Number of Weeks**	**Contact Hours**	**Learning Outcomes (CILOs)**
12	**Introduction to Digital Dentistry** – Digital Smile Design (DSD) hands-on session, CAD/CAM scanning, and in-office milling of restorations.	**Fourteenth & Fifteenth Week**	2	a2, b1, b2, d1, d2
Total		**15**	**15**	

VI. Teaching Strategies of the Course:

- Interactive lectures
- Seminars
- Practical session
- Training
- Discussion
- Self-learning
- Presentation
- Case study (CBL)
- Problem Based Learning (PBL)

VII. Assessment Methods of the Course:

No.	Assessment Tasks	Assessment Length	Week due	Mark	Proportion of Final Assessment	Aligned CILOs
1	Midterm Theoretical Exam	2 hours	Week 8	20	20 %	a1, a2, b1, b2
2	Assignments	1 hour quiz +practical requirement through the year	Week 1 to week 14	20	20%	b1, b2, c1, c2, d1, d2
3	Final Practical Exam	3 hours	At the end of the year	20	20 %	b1, b2, c1, c2, d1, d2
4	Final Theoretical Exam	3 hours	At the end of the year	40	40 %	a1, a2, b1, b2, d3
Total				**100**	**100%**	

VIII. Assignments:

No.	Assignments	Weekly Due	Mark	Aligned CILOs (symbols)

1	Rules: 1. Each one must submit the assignment on or before the date and time motioned. 2. If any assignment is found to be copied and pasted format, the assignment will be rejected and the entire mark will be lost. 3. Assignments should be in the following format Font-Times New Roman • Heading font size -14 • Paragraph -12 4. Marks of assignment -20 Assignment1: a) What are the caries risk assessment and management? b) What is a dental pellicle? And what is the function of dental pellicle? Assignment 2: c) Explain in detail the physiology of tooth form .0 d) What are the different factors affecting operative dentistry?	Week 2 to Week 14	20	b1, b2, c1, c2, d1, d2
Total			**20**	

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

No.	Assessment Method	Weekly Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Midterm Theoretical Exam	Week 8	20	20 %	a1, a2, b1, b2
2	Assignments	Week 1 to week	20	20%	b1, b2, c1, c2, d1, d2

		14			
3	Final Practical Exam	At the end of the year	20	20 %	b1, b2, c1, c2, d1, d2
4	Final Theoretical Exam	At the end of the year	40	40 %	a1, a2, b1, b2, d1
Total			**100**	**100%**	

X. Learning Resources:

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

1. Harold Heymann, Edward Swift, Andre Ritter, 2019: Sturdevant's Art and Science of Operative Dentistry, 7th Edition, Mosby, USA.
2. Avijit Banerjee, Timothy F. Watson, 2011: Pickard's Manual of Operative Dentistry, 9th Edition, Oxford, England.

2- Essential References.

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

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

3- Carlos Rocha Gomes Torres, 2020: Modern Operative Dentistry: Principles for Clinical Practice, 1st Edition, Springer AG, Switzerland.

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

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

1	**Class Attendance:** Attendance class 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 enter the exam hall 30 minutes after 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 Operative Dentistry

Bachelor Program of Dental Surgery BDS

Course Specification of

Clinical Operative Dentistry 2

Course No. (09.14.950)

Information about Faculty Member Responsible for the Course:							
Name of Faculty Member:	Prof. Dr. Abdulwahab Ismail. Al-kholani	**Office Hours**					
Location& Telephone No.:	Sanaa 777775025						
E-mail:	Prof_kholani@yahoo.com	SAT	SUN	MON	TUE	WED	THU

Prepared by:

Professor
Abdulwahab Ismail
Al-kholani

Reviewed by:

Assoc Prof.
Abdulhameed
Ashujaa

I. Course Identification and General Information:

1.	**Course Title:**	**Clinical Operative Dentistry 2**				
2.	**Course Code:**	09.14.950				
3.	**Credit Hours:**	**Credit Hours**	**Theory Contact Hours**		**Practical Contact Hours**	
			Lecture	**Tutorial/ Seminar**	**Lab**	**Clinical**
		2	1	--	--	3
4.	**Level/ Semester at which this Course is offered:**	Level 4/ Semester (1)				
5.	**Prerequisite (if any):**	Clinical Operative Dentistry 1				
6.	**Co –Requisite (if any):**	None				
7.	**Program (s) in which the Course is Offered:**	Bachelor of Dental Surgery (B.D.S).				
8.	**Medium of Instruction:**	English				
9.	**Study System:**	Semester Based System				
10.	**Mode of Delivery:**	Theoretical knowledge and practical skills				
11.	**Location of Teaching the Course:**	University of 21 September University of Medical & Applied Sciences, Yemen.				
12.	**Prepared by:**	Professor Abdulwahab Ismail Al-kholani				
13.	**Date of Approval:**	2025				

II. Course Description:

This course in **Restorative Dentistry** equips students with essential knowledge and practical skills in restorative techniques, focusing on adhesion, composite resins, and minimal invasive dentistry. Key topics include adhesive bonding systems, preventive resin restorations, management of non-carious cervical lesions, and dentin hypersensitivity. Students will also explore the restoration of endodontically treated teeth, management of discolored teeth, and esthetic procedures like porcelain veneers. The course introduces advanced technologies such as diode lasers and digital dentistry (DSD, CAD/CAM restorations).

By the end, students will be proficient in selecting restorative materials, applying minimal invasive techniques, managing clinical challenges, and utilizing modern technologies in restorative procedures.

III. Course Intended Learning Outcomes (CILOs):

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

a1	Discuss the concept of adhesive dentistry, adhesion mechanisms, each indication, and the advantages and drawbacks.
a2	Describe the management techniques for discolored teeth.
b1	Determine the etiology of postoperative hypersensitivity and pain after a recent operative procedure.
b2	Identify the aesthetic requirements of patients and the possibility of resolving their concerns
c1	Efficiently control the aesthetic restorative materials within the concept of adhesive cavity design and implement all the materials required for restoring the shape, function, and aesthetics of the tooth in patients of all ages.
c2	Develop a treatment plan to manage badly broken down vital and nonvital teeth and Patient complaints professionally
d1	Communicate with dental assistants and colleagues ethically and professionally.
d2	Effectively communicate the treatment details to the patient to maintain a good dentist-patient relationship and provide the best treatment possible within the prescribed time limits.

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Subtopics List	Number of Weeks	Contact Hours
1	**Adhesion in Restorative Dentistry**	– History & Development, – Classification of bonding systems, – Generations, - Adhesion strategies and techniques.	1 week	1
2	**Applied Composite Resins**	- Clinical aspects of Composite Resin material	1 week	1
3	**Concepts of Minimal Invasive Dentistry**	– Definition – Minimal Preparation and Caries management for Posterior teeth * Noninvasive * Micro invasive * Minimally invasive ART, PPR,	2 weeks	2
4	**Preventive Resin Restorations**	– Pit and Fissures Sealants – Indication & contraindications – Materials – Fissures Sealant procedure – Class VI preparation	1 week	1
5	**Management of**	– Definition of NCCL, – cervical erosion, abrasion and abfraction. – Etiological causes – Clinical features of NCCL – Treatment strategies:	1 week	1

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Subtopics List	Number of Weeks	Contact Hours
	Non-Carious Cervical Lesion	– Type of restorative materials – Restoration of Cervical lesions: - (Non-aesthetic & aesthetic Restorative methods).		
6	**Dentin Hyper-sensitivity and Post Restorative Pain**	– Definition – Etiology – Diagnosis – Management of hypersensitive teeth	1 week	1
7	**Restoration of Endodontically treated teeth**	– Management of destructed nonvital teeth – Tooth preparation – Retention methods	1 week	1
8	Management of discolored teeth	– Discoloration & Bleaching – Indications and contraindication – Mechanism of bleaching – Materials used – Different methods of bleaching (bleaching-laminate- Micro abrasion). – Advantages and disadvantages – Clinical steps – Aesthetic consideration.	2 weeks	2
9	**Fractured Tooth (Cracked Tooth Syndrome)**	– Definition – Etiology and types of tooth fracture (classification) – Signs and Symptoms – Diagnosis & Management	1 week	1

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Subtopics List	Number of Weeks	Contact Hours
		– Prevention and prognosis		
10	**Anterior esthetic restorations**	– Direct composite veneer – different clinical applications – Porcelain Veneers: - Indications and contra indications - Clinical technique - Delivery and cementation - Finishing and polishing	1 week	1
11	**Diode Laser in Dentistry**	– New restorative materials and equipment – Laser application in operative dentistry	1 week	1
12	**Introduction to Digital Dentistry**	– New restorative materials and equipment – Digital Smile Design (DSD) – CAD CAM Restorations	2 weeks	2
Number of Weeks /and Units Per Semester			**15**	**15**

C. Tutorial Aspect:

Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
Adhesion in Restorative Dentistry – Clinical application of bonding agents, hands-on demonstration of different bonding strategies, and comparison of adhesive systems.	**First Week**	1	a1, a2, b1, c1, d1
Applied Composite Resins – Hands-on composite	**Second**	1	a2, b2, c1, c2, d2

C. Tutorial Aspect:			
Tutorial	**Number of Weeks**	**Contact Hours**	**Learning Outcomes (CILOs)**
resin placement, shade selection, incremental layering, finishing, and polishing.	**Week**		
Concepts of Minimally Invasive Dentistry – Hands-on ART (Atraumatic Restorative Treatment), micro-invasive procedures, and sealant applications.	**Third & Fourth Week**	2	a1, a2, b2, c2, d2
Preventive Resin Restorations – Practical application of pit and fissure sealants and Class VI composite restorations.	**Fifth Week**	1	a2, b2, c2, d1
Management of Non-Carious Cervical Lesions (NCCL) – Hands-on restoration of cervical lesions using different restorative materials.	**Sixth Week**	1	a1, a2, b1, c1, d2
Dentin Hypersensitivity and Post-Restorative Pain – Clinical diagnosis and management of hypersensitivity, including desensitizing techniques and materials.	**Seventh Week**	1	a1, a2, b1, c1, d2
Restoration of Endodontically Treated Teeth – Hands-on post and core buildup techniques, selection of retention systems.	**Eighth Week**	1	a2, b1, c2, d1, d2
Management of Discolored Teeth – Hands-on bleaching techniques (in-office and take-home), veneer preparation, and shade matching.	**Ninth & Tenth Week**	2	a1, a2, b1, b2, c1, d2
Fractured Tooth (Cracked Tooth Syndrome) – Diagnosis using transillumination, bite tests, and management techniques including fiber-reinforced composites.	**Eleventh Week**	1	a1, a2, b1, c1, d2
Anterior Esthetic Restorations – Direct composite veneers and porcelain veneer placement,	**Twelfth Week**	1	a1, a2, b2, c1, c2, d1, d2

C. Tutorial Aspect:			
Tutorial	**Number of Weeks**	**Contact Hours**	**Learning Outcomes (CILOs)**
cementation, and polishing.			
Diode Laser in Dentistry – Hands-on demonstration of laser applications in cavity preparation and soft tissue management.	**Thirteenth Week**	1	a2, b1, b2, d1, d2
Introduction to Digital Dentistry – Digital Smile Design (DSD) hands-on session, CAD/CAM scanning, and in-office milling of restorations.	**Fourteenth & Fifteenth Week**	2	a2, b1, b2, d1, d2
Number of Weeks /and Units Per Semester	**15**	**15**	

V. Teaching Strategies of the Course:

- Interactive lectures
- Seminars
- Practical session
- Training
- Discussion
- Self-learning
- Presentation
- Case study (CBL)
- Problem Based Learning (PBL)

VI. Assessment Methods of the Course:

Midterm Theoretical Exam
Assignments
Final Practical Exam

Final Theoretical Exam

VII. Assignments:

No.	Assignments	Weekly Due	Mark
1	Rules: 1. Each one must submit the assignment on or before the date and time motioned. 2. If any assignment is found to be copied and pasted format, the assignment will be rejected and the entire mark will be lost. 3. Assignments should be in the following format Font-Times New Roman • Heading font size -14 • Paragraph -12 4. Marks of assignment -20 Assignment1: a) What are the caries risk assessment and management? b) What is a dental pellicle? And what is the function of dental pellicle? Assignment 2: c) Explain in detail the physiology of tooth form .0 **d) What are the different factors affecting operative dentistry?**	Week 2 to Week 14	20
Total			**20**

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

No.	Assessment Method	Weekly Due	Mark	Proportion of Final Assessment
1	Midterm Theoretical Exam	Week 8	20	20 %
2	Assignments	Week 1 to week 14	20	20%
3	Final Practical Exam	At the end of the year	20	20 %
4	Final Theoretical Exam	At the end of the year	40	40 %
Total			**100**	**100%**

IX. Learning Resources:

3. Harold Heymann, Edward Swift, Andre Ritter, 2019: Sturdevant's Art and Science of Operative Dentistry, 7th Edition, Mosby, USA.
4. Avijit Banerjee, Timothy F. Watson, 2011: Pickard's Manual of Operative Dentistry, 9th Edition, Oxford, England.

2- Essential References.

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

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

3- Dental Materials Journal

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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.