

Republic of Yemen
21 September University for Medical & Applied Sciences



FACULTY OF DENTISTRY
Bachelor of Dental Technology (B.D.T)

Department of Prosthodontics.

Course Specification of
Fixed Prosthodontics - 4

Course Code. (09.22.928)

2025- 2024.

Prepared by:

Dr. Mohsen Ali Al-Hamzi

Reviewed by:

Dr. ----

Head of the Department:

Quality Unit:

Dean

I. General Information:

1.	Course Title:	Fixed Prosthodontics – 4			
2.	Course Code:	09.22.928			
3.	Credit Hours:	Credit Hours	Theory Contact Hours		Practical Contact Hours
			Lecture	Tutorial/Seminar	Lab Clinical
		3	2	--	2 --
4.	Level/ Semester at which this Course is offered:	3 rd Level / 1 st Semester			
5.	Pre –Requisite (if any):	Fixed Prosthodontics 1,2, 3			
6.	Co –Requisite (if any):	-----			
7.	Program (s) in which the Course is Offered:	Bachelor of Dental Technology (B.D.T)			
8.	Language of Teaching the Course:	English			
9.	Location of Teaching the Course:	Faculty of Dentistry			
10.	Prepared by:	Dr. Mohsen Ali Al-Hamzi			
11	Date and Number of Approval by Council:				

II. Course Description:

This course of the third and fourth semesters represents to the Advanced science and art of FPs, focusing on the laboratory application of basic and advance Fps laboratory procedures in dental lab. It is an essential prerequisite to other clinical courses. Its theoretical part covers basic and advance topics including the components of FPD and the different types of FPDs restoration, It also includes advanced topics that related to Dental Technologist continue in addition to the Digital Dentistry and AI and the relation to other specialization in dentistry.

III. Course Intended Learning Outcomes (CILOs) : Upon successful completion of the course, students will be able to:		Referenced PILOs	
A. Knowledge and Understanding:		I, P or M/A	
a1	Identify the rules and ethics governing dental technology practices that related to the dental lab and the good communication with the Dentist.	M/A	A3 Identify the rules and ethics governing dental Technology practices.
a2	Explain the digital technology in dental Technology and show the principles of evidence-based dental Technology and its relation to Fixed Prosthodontics Laboratory Practice.	M/A	A6 Explain the digital technology in dental Technology & Explain the principles of evidence-based dental Technology and its relation to scientific research.
B. Intellectual Skills:			
b1	Evaluation with the Dentist the critical thinking and evidence-based problem solving when providing service of Fixed Prosthesis.	M/A	B2 Evaluation of critical thinking and evidence-based problem solving when providing service.
b2	Analyze and use the Artificial intelligence (AI) and digital technology in dentistry to solve the problems of dental Technology and recreate the reasonable solutions in Fixed Prosthodontics Practice.	M/A	B6 Analyze and use the Artificial intelligence (AI) and digital technology in dentistry to solve the problems of dental Technology and recreate the reasonable solutions.
C. Professional and Practical Skills:			
c1	Apply the recent advance in dental technology to produce high and precise Fixed prosthodontics.	M/A	C1 . Use the recent advance in dental technology to produce high and precise prosthodontics.
c2	Use comprehensive dental Technology practices and apply preventive measures for different age groups which needs Fixed Prosthodontics.	M/A	C4 Apply comprehensive dental Technology practices & Apply preventive measures for different age groups bearing in mind the different needs of young children, adolescents, adults,

				special needs and the ageing population/elderly.
D. Transferable Skills:				
d1	Commit to continuous education, self-development and lifelong learning to remain updated with advances in Fixed Prosthodontics practice.	M/A	D1	Commit to continuous education, self-development and lifelong learning to remain updated with advances in dental practice.
d2	Work individually and in team and develop lifelong learning using up to date technology that help in understanding the Fixed Prosthodontics practice	M/A	D3	Work individually and in team and develop lifelong learning using up to date technology that help in understanding the diseases and its control and prevention.
I= Introduced, P=Practiced or M/A= Mastered/Advanced				

(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	Identify the rules and ethics governing dental technology practices that related to the dental lab and the good communication with the Dentist.	- Interactive lectures - Discussion - Self-learning	- Written exam (mid and final terms and quizzes), - Final oral exam - Homework
a2	Explain the digital technology in dental Technology and show the principles of evidence-based dental Technology and its relation to Fixed Prosthodontics Laboratory Practice.	- Interactive lectures - Discussion - Self-learning	- Written exam (mid and final terms and quizzes), - Final oral exam - Homework
(B) Alignment of Course Intended Learning Outcomes (Intellectual Skills) to Teaching Strategies and Assessment Methods:			

Course Intended Learning Outcomes		Teaching Strategies	Assessment Strategies
b1	Evaluation with the Dentist the critical thinking and evidence-based problem solving when providing service of Fixed Prosthesis.	- Interactive lectures - Self-learning - Problem Based Learning (PBL) - Training	-Written Exam -Final Oral Exam -Final Practical Exam
b2	Analyze and use the Artificial intelligence (AI) and digital technology in dentistry to solve the problems of dental Technology and recreate the reasonable solutions in Fixed Prosthodontics Practice.	- Interactive lectures - Self-learning - Problem Based Learning (PBL) - Training	-Written Exam -Final Oral Exam -Final Practical Exam
(C) Alignment of Course Intended Learning Outcomes (Professional and Practical Skills) to Teaching Strategies and Assessment Methods:			
Course Intended Learning Outcomes		Teaching Strategies	Assessment Strategies
c1	Apply the recent advance in dental technology to produce high and precise Fixed prosthodontics.	-Practical session. -Training -Case Study (CBL) - PBL	- Final Practical Exam - OSCE -OSPE
c2	Use comprehensive dental Technology practices and apply preventive measures for different age groups which needs Fixed Prosthodontics.	-Practical session. -Training -Case Study (CBL) - PBL	- Final Practical Exam -
(D) Alignment of Course Intended Learning Outcomes (Transferable Skills) to Teaching Strategies and Assessment Methods:			
Course Intended Learning Outcomes		Teaching Strategies	Assessment Strategies
d1	Commit to continuous education, self-development and lifelong learning to remain updated with advances in Fixed Prosthodontics practice.	- Seminars - Discussion - Case Study (CBL) - Self Learning - Presentation - PBL	- Homework - Research

d2	Work individually and in team and develop lifelong learning using up to date technology that help in understanding the Fixed Prosthodontics practice	- Seminars - Discussion - Case Study (CBL) - Self Learning - Presentation	- Homework - Research
	...	▪	▪

IV. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	Introduction to the course	– Review and Study Plan of Fixed Prosthodontics - 4	1	2	a.1, a.2
2	Laminate veneers	Defecation, Types, Indications, Contra-indications, Advantages and Disadvantages of Laminate veneers. Laboratory procedures of Ceramic Laminate veneers (Indirect Techniques). Cementation. Maintenance.	2	4	a.1, a.2
3	Advanced Laminate veneers	Laboratory procedures of Ceramic Laminate veneers (Indirect Techniques). CAD/CAM, 3D Printer, Hollowood Smile ...	1	2	a.1, a.2, b.1, b.2
4	Shade Selection	Defecation, Dimensions of Color, Technique for shade selection, Manual and Digital Colour Sade Guid and the Role of Dental Technologist.	1	2	a.1, a.2, b.1, b.2, c.2,
5	Crown & Bridge Failure and Repair	When Crown & Bridge Removing, and how? Loss of retention Incomplete seating aesthetic, fracture of porcelain Pre- and Post-insertion problems,	2	4	a1, a2,b1 b2, c1, c2, d.1, d2
6	Mid-term Exam		1	2	a1, a2,b1 b2, c1, c2, d.1, d2
7	Esthetic consideration in relation to Fixed prosthodontics	Esthetic consideration in relation to FPs, different topics, that Related to Dental Technologist as Smile Design, Muck-up...	2	4	a1, a2,b1 b2, c1, c2, d.1, d2

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
	Seminar				
8	Intracoronar Restorations.	Defecation, Types, Indications, Contra-indications, Advantages and Disadvantages of Intracoronar Restorations. Preparations for Intracoronar Restorations, Proximo-occlusal Inlays, Metal Inlay Variations, MOD Onlays.	2	4	a1, a2,b1 b2, c1, c2, d.1, d2
9	Fixed prosthesis in relation to other specialization in dentistry.	Removable Prosthodontics, Orthodontics, oral and maxillofacial surgery and Pedodontics,	2	4	a1, a2,b1 b2, c1, c2, d.1, d2
10	Immediate replacement FPD .	Planned tooth extraction prior to immediate replacement Indications Advantages&Disadvantages Impression techniques for Immediate replacement Types – Clinical cases.	1	2	a1, a2,b1 b2, c1, c2, d.1, d2
10	Final Exam	—	1	2	a1, a2,b1 b2, c1, c2, d.1, d2
Number of Weeks /and Units Per Semester			16	32	

B - Practical Aspect: (if any)				
Order	Tasks/ Experiments	Number of Weeks	contact hours	Learning Outcomes
1	Introduction of 4 th Semester	1	2	a2, b1, c1, d1
2	Maryland Bridge 3 unit anterior.	2	4	a1, b1, c1, c2, d2
3	Inlay and Onlay Restoration.	2	4	a1, a2, b1, b2, c1, c2, d2

4	Laminate Veneers at least 1- 2 plates.	1	2	a1, a2, b1, b2, c1, c2, d1, d2
5	Mid-Term Exam	1	2	b1, b2, c1, c2
6	Zirconia CAD/CAM	2	4	a1, a2, b1, b2, c1, c2, d1, d2
7	E.max Restoration IPS Impress	2	4	a1, a2, b1, b2, c1, c2, d1, d2
8	E.max Restoration CAD/CAM.	2	4	a1, a2, b1, b2, c1, c2, d1, d2
9	Endo-Crown 1 unit.	1	2	a1, a2, b1, b2, c1, c2, d1, d2
10	Muck-up Conventional and CAD/CAM	1	2	a1, a2, b1, b2, c1, c2, d1, d2
11	Final Practical Exam	1	2	a1, a2, b1, b2, c1, c2, d1, d2
Number of Weeks /and Units First Semester		16	32	

VII. Assignments:

No.	Assignments	Week Due	Mark	Aligned CILOs (symbols)
1	Presentation about CAD/CAM, 3D Prenter in Fixed Prosthodontics, that related to Dental Technologist.	All Weeks	5	a1, b1,c1,c2, d1
2	Presentation about Artificial Inelegant in Fixed Prosthodontics Practice that related to Dental Technologist.	All Weeks	5	a1,a2,b1,b2, c1,d1
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	Mid-Term Theoretical Exam	1-10	25	25 %	a.1, a.2, b.1, b.2,d.1, d.2
2	Mid-Term Practical Exam	6,7	15	15 %	b.1, b.2, c.1, c.2, d.1, d.2

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
3	Final Practical Exam including Project Presentation & Evaluation	14	20	20 %	b.1, b.2, c.1, c.2, d.1, d.2
4	Final Theoretical Exam	16	40	40 %	a.1, a.2, b.1, b.2, d.1, d.2
Total			100	100 %	

IX. Learning Resources:

- Written in the following order: Author, Year of publication, Title, Edition, Place of publication, Publisher.

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

- 1- Stephen F. Rosenstiel , Martin F. Land., 2015,: Contemporary of fixed prosthodontics. last edition, MOSBY Inc,
- 2- Shillingburg, H.T., Hobo, S., Whitsett, L.D.: Fundamentals of Fixed Prosthodontics, last edition. Quintessence Pub. Co.

2- Essential References

1. Restorative Dental Material, Robert G. Craig et al, Last Edition,
2. Introduction to Metal Ceramic Technology. W.Patrick Naylor
3. Color atlas of porcelain laminates veneers George A. Freedman and Gerald L. McLaughlin

3- Electronic Materials and Web Sites etc.:

Websites:

- <http://www.journalofprostheticdentistry>
- <http://www.internationaljournalofprostheticdentistry>
- <http://www.journalofadvancedprosthodontic> .

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 Prosthodontics

Program Bachelor of Dental Technology (B.D.T)

Course Plan (Syllabus) of **Fixed Prosthodontics - 4**

Course Code. 09.22.928

I. Information about Faculty Member Responsible for the Course:						
Name of Faculty Member:	FACULTY OF DENTISTRY			Office Hours		
Location& Telephone No.:	-----					
E-mail:	--@--.--			SAT	SUN	MON TUE WED THU

2024 / 2025.

II. Course Identification and General Information:

11.	Course Title:	Fixed Prosthodontics – 4				
12.	Course Code:	09.22.928				
13.	Credit Hours:	Credit Hours	Theory Contact Hours		Practical Contact Hours	
			Lecture	Tutorial/ Seminar	Lab	Clinical
		3	2	--	2	--
14.	Level/ Semester at which this Course is offered:	3 rd Level / 1 st Semester				
15.	Pre –Requisite (if any):	Fixed Prosthodontics 1,2, 3				
16.	Co –Requisite (if any):	-----				
17.	Program (s) in which the Course is Offered:	Bachelor of Dental Technology (B.D.T)				
18.	Language of Teaching the Course:	English				
19.	Location of Teaching the Course:	Faculty of Dentistry				
20.	Prepared by:	Dr. Mohsen Ali Al-Hamzi				
11	Date and Number of Approval by Council:					

III. Course Description:

This course of the third and fourth semesters represents to the Advanced science and art of FPs, focusing on the laboratory application of basic and advance Fps laboratory procedures in dental lab. It is an essential prerequisite to other clinical courses. Its theoretical part covers basic and advance topics including the components of FPD and the different types of FPDs restoration, It also includes advanced topics that related to Dental Technologist continue in addition to the Digital Dentistry and AI and the relation to other specialization in dentistry.

IV. Course Intended Learning Outcomes (CILOs) :

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

- a1. Identify the rules and ethics governing dental technology practices that related to the dental lab and the good communication with the Dentist.
- a2. Explain the digital technology in dental Technology and show the principles of evidence-based dental Technology and its relation to Fixed Prosthodontics Laboratory Practice.
- b1. Evaluation with the Dentist the critical thinking and evidence-based problem solving when providing service of Fixed Prosthesis.
- b2. Analyze and use the Artificial intelligence (AI) and digital technology in dentistry to solve the problems of dental Technology and recreate the reasonable solutions in Fixed Prosthodontics Practice.
- c1. Apply the recent advance in dental technology to produce high and precise Fixed prosthodontics.
- c2. Use comprehensive dental Technology practices and apply preventive measures for different age groups which needs Fixed Prosthodontics.
- d1. Commit to continuous education, self-development and lifelong learning to remain updated with advances in Fixed Prosthodontics practice.
- d2. Work individually and in team and develop lifelong learning using up to date technology that help in understanding the Fixed Prosthodontics practice

IV. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	Introduction to the course	– Review and Study Plan of Fixed Prosthodontics - 4	1	2
2	Laminate veneers	Defecation, Types, Indications, Contra-indications, Advantages and Disadvantages of Laminate veneers. Laboratory procedures of Ceramic Laminate veneers (Indirect Techniques). Cementation. – Maintenance.	2	4
3	Advanced Laminate veneers	Laboratory procedures of Ceramic Laminate veneers (Indirect Techniques). – CAD/CAM, 3D Printer, Hollowood Smile ...	1	2
4	Shade Selection	Defecation, Dimensions of Color, Technique for shade selection,	1	2

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
		– Manual and Digital Colour Sade Guid and the Role of Dental Technologist.		
5	Crown & Bridge Failure and Repair	When Crown & Bridge Removing, and how? Loss of retention Incomplete seating aesthetic, fracture of porcelain Pre- and Post-insertion problems,	2	4
6	Mid-term Exam		1	2
7	Esthetic consideration in relation to Fixed prosthodontics Seminar	– Esthetic consideration in relation to FPs, different topics, that Related to Dental Technologist as Smile Design, Muck-up...	2	4
8	Intracoronar Restorations.	Defecation, Types, Indications, Contra-indications, Advantages and Disadvantages of Intracoronar Restorations. Preparations for Intracoronar Restorations, Proximo-occlusal Inlays, Metal Inlay Variations, MOD Onlays.	2	4
9	Fixed prosthesis in relation to other specialization in dentistry.	– Removable Prosthodontics, Orthodontics, oral and maxillofacial surgery and Pedodontics,	2	4
10	Immediate replacement FPD .	Planned tooth extraction prior to immediate replacement Indications Advantages&Disadvantages Impression techniques for Immediate replacement Types – Clinical cases.	1	2
11	Final Exam	–	1	2
Number of Weeks /and Units Per Semester			16	32

B - Practical Aspect: (if any)

Order	Tasks/ Experiments	Number of Weeks	contact hours	Learning Outcomes
1	Introduction of 4 th Semester	1	2	a2, b1, c1, d1
2	Maryland Bridge 3 unit anterior.	2	4	a1, b1, c1, c2, d2
3	Inlay and Onlay Restoration.	2	4	a1, a2, b1, b2, c1, c2, d2
4	Laminate Veneers at least 1- 2 plates.	1	2	a1, a2, b1, b2, c1, c2, d1, d2
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11	Final Practical Exam	1	2	a1, a2, b1, b2, c1, c2, d1, d2
Number of Weeks /and Units First Semester		16	32	

VI. Teaching Strategies of the Course:

- Interactive lectures
- Self-learning
- Problem Based Learning (PBL)
- Practical session.
- Training
- Case Study (CBL)
- PBL

VII. Assessment Methods of the Course:

- - Written exam (mid and final terms and quizzes).
- Final Oral Exam
- Final Practical Exam
- OSCE.

- OSPE.
- Homework.
- Research

VIII. Assignments:

No.	Assignments	Week Due	Mark
1	Presentation about CAD/CAM, 3D Prenter in Fixed Prosthodontics, that related to Dental Technologist.	All Weeks	5
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