

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 - 1

Course Code. (09.22.922)

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 – 1				
2.	Course Code:	09.22.922				
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:	2 nd Level / 1 st Semester				
5.	Pre –Requisite (if any):	Dental Anatomy.				
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 first semester represents an introduction to the science and art of Fixed Prosthodontics (FP) focusing on the laboratory application of basic FP preparation and laboratory procedures on crown and bridge dental lab. It is an essential prerequisite to other laboratory courses. Its theoretical part covers basic topics including an introduction, tooth preparation principles for different types of restoration, types of crown impression materials and techniques, provisional restorations, bridge components, types of bridges, pouring impression, working cast and dies, wax pattern materials and techniques, investing materials and techniques, casting materials and techniques,

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 technical, laboratory and specific investigatory procedures practiced in dental Technology in relation to Fixed Prosthodontics	I, P	A4	Describe the different technical, laboratory and special investigatory procedures practiced in dental Technology.
a2	Describe an understanding of the psychological, cultural and social factors that have implications on dental Technology, that related to Fixed Prosthodontics practice.	I, P	A5	Show an understanding of the psychological, cultural and social factors that have implications on dental Technology.
B. Intellectual Skills:				
b1	Justify simple prosthesis from the design, and treatment plans, that related to FP with the Dentist, laboratory procedures and demonstrate problem-solving skills to find solutions for unanticipated problems.	I, P	B2	Evaluation of critical thinking and evidence-based problem solving when providing service.
b2	Select suitable biocompatible dental materials and choose the best quality material to be used in a specific dental Technology situation that will be used in FP practice.	I, P	B5	Select suitable biocompatible dental materials and choose the best quality material to be used in a specific dental Technology situation.
C. Professional and Practical Skills:				
c1	Manage the dental technology equipment and materials with high quality standard of safety in Fixed Prosthodontics Practice.	I, P	C2	Manage the dental technology equipment with high quality standard of safety.
c2	Ability to assess the risk of laboratory emergencies and be competent in their management within the dental technology practice setup, in comprehensive fixed	I, P	C6	Ability to assess the risk of medical emergencies and be

	prosthodontics practices, that related to Dental Technologist.			competent in their management within the dental practice setup.
D. Transferable Skills:				
d1	Commit to continuous education, self-development and lifelong learning to remain updated with advances in the Fixed prosthodontics practice that related to Dental Technologist.	I, P	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.
d2	Communicate effectively with the supervisor and colleagues and other team member in Dental Lab of Fixed Prosthodontics, that related to Dental Technologist.	I, P	D7	Respect the different cultural beliefs, ethics, personalities, privacy and values for patients and community with a good behavior and follow the institutional and national roles of technical practice.
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 technical, laboratory and specific investigatory procedures practiced in dental Technology in relation to Fixed Prosthodontics	- Interactive lectures - Discussion - Self-learning	- Written exam (mid and final terms and quizzes), - Final oral exam - Homework
a2	Describe an understanding of the psychological, cultural and social factors that have implications on dental Technology, that related to Fixed Prosthodontics 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	Justify simple prosthesis from the design, and treatment plans, that related to FP with the Dentist, laboratory procedures and demonstrate problem-solving skills to find solutions for unanticipated problems.	- Interactive lectures - Self-learning - Problem Based Learning (PBL) - Training	-Written Exam -Final Oral Exam -Final Clinical Exam -Final Practical Exam
b2	Select suitable biocompatible dental materials and choose the best quality material to be used in a specific dental Technology situation that will be used in FP 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	Manage the dental technology equipment and materials with high quality standard of safety in Fixed Prosthodontics Practice.	-Practical session. -Training -Case Study (CBL) - PBL	- Final Practical Exam - OSCE -OSPE
c2	Ability to assess the risk of laboratory emergencies and be competent in their management within the dental technology practice setup, in comprehensive fixed prosthodontics practices.	-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 the Fixed prosthodontics practice	- Seminars - Discussion - Case Study (CBL) - Self Learning - Presentation - PBL	- Homework - Research
d2	Communicate effectively with the supervisor and colleagues and other team member in Dental Lab of Fixed Prosthodontics.	- 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 Course	Definition Extracoronary restoration Intracoronary restoration Intraradicular restoration Component of FPD – Purposes and Indications of Crown Construction	2	4	a.1, a.2
2	Principles of Tooth Preparation in relation to dental technician	Preservation of tooth structure. - Retention and Resistance form, and Path of Insertion - Structure durability. - Marginal integrity and Types of Finishing Line. - Preservation of Periodontium. – - Instrumentation.	2	4	a.1, a.2

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
3	Types of Crowns	Full Metal, Metal Ceramic, Porcelain and Acrylic Jacket Crowns. Indications, Contra-indications, Advantages, and Disadvantages. – Steps of crown construction.	2	4	a.1, a.2, b.1, b.2
4	Introduction to partial veneer crowns	Indications, Contra-indications, Disadvantages and Advantages of Partial veneer Crowns. – Posterior 3/4 Crown, Anterior 3/4 Crown, and Other Modifications, 7/8, Half Crown, and Reverse 3/4 Crown.	1	2	a.1, a.2, b.1, b.2, c.2,
5	Mid-term Exam		1	2	a1, a2, b1 b2, c1, c2, d.1, d2
6	Impression materials and Impression techniques	– Definitions, Classification Elastic Impression Materials, Elastomeric impression material, Polysulfide Rubber Base., Condensation Silicone, Additional Silicone. Polyether Techniques of Impression Making:, Stock impression Tray, Custom Impression Tray, “Impression Making” of Elastomeric Materials, Manual mixing - Auto Mixer, Evaluate the impression	3	6	a1, a2, b1 b2, c1, c2, d.1, d2
7	Gypsum Products	Definitions, Classification, composition, Uses,	1	2	a1, a2, b1 b2, c1, c2, d.1, d2
8	Pouring impression, working cast and dies	– Pouring materials and pouring impression, Requirements of Working Cast and Die, Working cast with a separate and removable die, requirement of removable die , ditching,	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)
9	Cooperative Learning	—	1	2	
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 the practical course.	1	2	a2, b1, c1, d1
2	Pouring impression	2	4	a2, b1, b2, c2, d1, d2
3	Received Full crown preparation for cast restoration, on lower first molar on study cast	2	4	a1, b1, c1, c2, d2
4	Provisional Restoration or temporary restoration	2	4	a1, a2, b1, b2, c1, c2, d2
5	Working cast and Die preparation Bit registration and articulation	2	4	a1, a2, b1, b2, c1, c2, d1, d2
6	Mid – term Practical Exam	1	2	b1, b2, c1, c2
7	Waxing of full metal crown restoration.	2	4	a1, a2, b1, b2, c1, c2, d1, d2
8	Spruing, Investing & casting. & primary Finishing	2	4	a1, a2, b1, b2, c1, c2, d1, d2
9	Final finishing and polishing of metal crown Complete all Requirements, Delivering and Assessment	1	2	a1, a2, b1, b2, c1, c2, d1, d2
10	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	-Technical/Practical reports, that related to Dental Technologist.	All Weeks	5	a1, b1,c1,c2, d1
2	-Presentations -Terminology of Fixed Prosthodontics -Hand and Rotary Instruments Used in Crown and Bridge Prosthodontics related to 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	Assignments	1-12	10	10 %	a1, a2, c1, d2
2	Quizzes 1 & 2	6, 10	5	5 %	a.1, a.2, b.1, b.2,d.1, d.2
3	Mid-Term Theoretical Exam	5	15	15 %	a.1, a.2, b.1, b.2,d.1, d.2
4	Mid-Term Practical Exam	6	10	10 %	b.1, b.2, c.1, c.2, d.1, d.2
5	Final Practical Exam including Project Presentation & Evaluation	14	20	20 %	b.1, b.2, c.1, c.2, d.1, d.2
6	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
3- V Rangarajan (Author), T V Padmanabhan, 2017: " Textbook of Prosthodontics ", 2nd edition Elsevier India. 4- Vijay Prakash , Ruchi Gupta , 2017: Concise Prosthodontics- E Book: Prep Manual for Undergraduates 2nd Edition, Elsevier India.
3- Electronic Materials and Web Sites etc.:
Websites: http://www.journalofprosthodontics.com http://www.internationaljournalofprosthodontics.com

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

Course Plan (Syllabus) of **Fixed Prosthodontics - 1**

Course Code. 09.22.922

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 – 1			
12.	Course Code:	09.22.922			
13.	Credit Hours:	Credit Hours	Theory Contact Hours		Practical Contact Hours
			Lecture	Tutorial/Seminar	Lab
		3	2	--	2
14.	Level/ Semester at which this Course is offered:	2 nd Level / 1 st Semester			
15.	Pre –Requisite (if any):	Dental Anatomy.			
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:				

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This course of the first semester represents an introduction to the science and art of Fixed Prosthodontics (FP) focusing on the laboratory application of basic FP preparation and laboratory procedures on crown and bridge dental lab. It is an essential prerequisite to other laboratory courses. Its theoretical part covers basic topics including an introduction, tooth preparation principles for different types of restoration, types of crown impression materials and techniques, provisional restorations, bridge components, types of bridges, pouring impression, working cast and dies, wax pattern materials and techniques, investing materials and techniques, casting materials and techniques,

IV. Course Intended Learning Outcomes (CILOs) :

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

A. Knowledge and Understanding:	
a1	Identify the technical, laboratory and specific investigatory procedures practiced in dental Technology in relation to Fixed Prosthodontics
a2	Describe an understanding of the psychological, cultural and social factors that have implications on dental Technology, that related to Fixed Prosthodontics practice.
B. Intellectual Skills:	
b1	Justify simple prosthesis from the design, and treatment plans, that related to FP with the Dentist, laboratory procedures and demonstrate problem-solving skills to find solutions for unanticipated problems.
b2	Select suitable biocompatible dental materials and choose the best quality material to be used in a specific dental Technology situation that will be used in FP practice.
C. Professional and Practical Skills:	
c1	Manage the dental technology equipment and materials with high quality standard of safety in Fixed Prosthodontics Practice.
c2	Ability to assess the risk of laboratory emergencies and be competent in their management within the dental technology practice setup, in comprehensive fixed prosthodontics practices, that related to Dental Technologist.
D. Transferable Skills:	
d1	Commit to continuous education, self-development and lifelong learning to remain updated with advances in the Fixed prosthodontics practice that related to Dental Technologist.
d2	Communicate effectively with the supervisor and colleagues and other team member in Dental Lab of Fixed Prosthodontics, that related to Dental Technologist.

IV. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
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3	Types of Crowns	Full Metal, Metal Ceramic, Porcelain and Acrylic Jacket Crowns. Indications, Contra-indications, Advantages, and Disadvantages. – Steps of crown construction.	2	4
4	Introduction to partial veneer crowns	Indications, Contra-indications, Disadvantages and Advantages of Partial veneer Crowns. – Posterior 3/4 Crown, Anterior 3/4 Crown, and Other Modifications, 7/8, Half Crown, and Reverse 3/4 Crown.	1	2
5	Mid-term Exam		1	2
6	Impression materials and Impression techniques	– Definitions, Classification Elastic Impression Materials, Elastomeric impression material, Polysulfide Rubber Base., Condensation Silicone, Additional Silicone. Polyether Techniques of Impression Making:, Stock impression Tray, Custom Impression Tray, “Impression Making” of Elastomeric Materials, Manual mixing - Auto Mixer, Evaluate the impression	3	6
7	Gypsum Products	Definitions, Classification, composition, Uses,	1	2
8	Pouring impression,	– Pouring materials and pouring impression, Requirements of Working Cast and Die,	2	4

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
	working cast and dies	Working cast with a separate and removable die, requirement of removable die , ditching,		
9	Cooperative Learning	–	1	2
10	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
1	Introduction of the practical course.	1	2
2	Pouring impression	2	4
3	Received Full crown preparation for cast restoration, on lower first molar on study cast	2	4
4	Provisional Restoration or temporary restoration	2	4
5	Working cast and Die preparation Bit registration and articulation	2	4
6	Mid – term Practical Exam	1	2
7	Waxing of full metal crown restoration.	2	4
8	Spruing, Investing & casting. & primary Finishing	2	4
9	Final finishing and polishing of metal crown Complete all Requirements, Delivering and Assessment	1	2
10	Final Practical Exam	1	2
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	-Technical/Practical reports, that related to Dental Technologist.	All Weeks	5
2	-Presentations -Terminology of Fixed Prosthodontics -Hand and Rotary Instruments Used in Crown and Bridge Prosthodontics related to that related to Dental Technologist.	All Weeks	5
Total			10

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

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
1	Assignments	1-12	10	10 %
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3	Mid-Term Theoretical Exam	5	15	15 %
4	Mid-Term Practical Exam	6	10	10 %
5	Final Practical Exam including Project Presentation & Evaluation	14	20	20 %
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Total			100	100 %

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- 8- Vijay Prakash , Ruchi Gupta , 2017: Concise Prosthodontics- E Book: Prep Manual for Undergraduates 2nd Edition, Elsevier India.

3- Electronic Materials and Web Sites etc.:

Websites:

- <http://www.journalofprosthodontics.com>
- <http://www.internationaljournalofprosthodontics.com>

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.
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