

The logo of Dow University of Health Sciences (D.U.H.S.) is a circular emblem. The outer ring contains the text "DOW UNIVERSITY OF HEALTH SCIENCES" at the top and "D.U.H.S." at the bottom, separated by two small stars. Inside the circle is a sun with rays at the top and an open book at the bottom. A banner with the letters "D.U.H.S." is draped across the bottom of the circle.

**Major Disciplinary Courses for
Dental Technology Program**

Title of Course	PARTIAL DENTURE – I
Course Code	DT-PDENT 426
Duration	8 Hour a week (2 hours classroom teaching/ lecture followed by 6 hours of laboratory-based practices)
Campus/ Location Office	OJHA campus
Total Credit Hours	4 Cr. Hours (2 + 2)
Accredited by	ALLIED HEALTH PROFESSIONAL COUNCIL PAKISTAN

COURSE INTRODUCTION:

To fulfil the **MAJOR COURSE REQUIREMENTS** of the Higher Education Commission this course has been introduced in the BS Program of Dental Technology to get the students acquainted with the basic dental laboratory practices that commonly deals with the temporary partial denture replacement and providing fabricated dentures to the people who have lost their teeth.

Since dental technologists are the main workforce in the Dental team who cater the dental health and their prosthetic needs and requirements and they work in close coordination with the Dentist. A good denture is a means for a healthy dietary intake. Therefore, they should learn about the basic dental laboratory procedures and the patient requirement of any kind of dental prostheses that they require. Since Partial Denture is a lengthy subject, this course has been divided into two parts. It is a major course for the Dental Technology students and is placed in the 3rd year both semester V and semester VI.

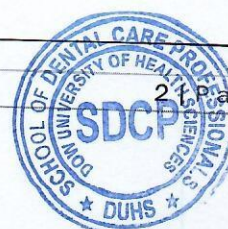
COURSE OBJECTIVES:

The students will be able to:

1. Learn and understand the requirements and uses of partial dentures
2. Learn and understand the classifications and principles of designing partial dentures
3. Fabricate partial dentures of acrylic resin / temporary type in dental laboratory
4. Practice repair, maintenance and replacement of partial denture – acrylic type / temporary dentures

COURSE PLAN

WEEK	LESSON TOPIC	TEACHING/ METHOD	ASSESSMENT
1	Recall tooth loss and age Functional restoration with partial prostheses Need for removable partial dentures	Learn handling of materials used in partial denture fabrication Observe and learn basic techniques and performing basic related to partial dentures fabrication in dental laboratory Perform: Cast preparation Undercut block Wire work Wax pattern Teeth set-up Carving Finishing	
2	Introduction to partial prosthetics		
3	Classification of Partially Edentulous Arches Requirements of an acceptable method of classification Kennedy classification Applegate's rules for applying the Kennedy classification		
4	Component parts of partial denture		
5	Surveying Purposes of the surveyor Factors that determine path of placement and Removal – path of insertion		
6	Class test		



7	Designing partial dentures: Designing saddles, Designing tooth support, Designing mucosa support	Prepare and submit at least 2 cases of each design based on Kennedy's classification as temporary partial dentures
8	Designing partial dentures Designing retention, clasps, indirect and direct retention, designing connectors	
9	Mid-term exam	
10	Interim removable partial denture: Appearance, space maintenance Reestablishing occlusal relationships Conditioning teeth and residual ridges Interim restoration during treatment Conditioning the patient for wearing a prosthesis Clinical procedure for placement	
11	Partial denture construction – resin design Basic procedures	
12	Master cast and duplication Under-cut block-out, wax – up designing, clasp designing, investing, casting, polishing and other Procedures	
13	Partial denture repair and maintenance	
14	Partial denture construction principles – cobalt chromium	
15	Summary and revision	

LEARNING RESOURCES AND TEXTBOOKS:

1. Basics of dental technology – a step-by-step approach by Tony Johnson, David G Patrick et al.
Publisher: Wiley Blackwell (section – 3 only)
2. McCracken's Removable partial prosthodontics by Alan B Carr and David T Brown 13th edition
Elsevier (for lecture details)

Title of Course	PARTIAL DENTURE- II
Course Code	DT-PDENT 426
Duration	8 clock hours a week (2 hours classroom teaching/ lecture followed by 6 hours of laboratory practices)
Campus/ Location Office	OJHA campus
Total Credit Hours	4 Cr. Hours (2 + 2)
Accredited by	ALLIED HEALTH PROFESSIONAL COUNCIL PAKISTAN

COURSE INTRODUCTION:

To fulfil the **MAJOR COURSE REQUIREMENTS** of the Higher Education Commission this course has been introduced in the BS Program of Dental Technology to get the students acquainted with the basic dental laboratory practices that commonly deals with the definitive partial denture replacement and providing fabricated dentures to the people who have lost their teeth.

Since dental technologists are the main workforce in the Dental team who cater the dental health and their prosthetic needs and requirements and they work in close coordination with the Dentist. A good denture is a means for a healthy dietary intake. Therefore, they should learn about the basic dental laboratory procedures and the patient requirement of any kind of dental prostheses that they require. Since Partial Denture is a lengthy subject, this course has been divided into two parts. It is a major course for the Dental Technology students and is placed in the 3rd year both semester V and semester VI. This course is the continuation of Partial Denture – I where in this semester they will learn and practice the fabrication of definitive partial dentures made in cobalt chromium.

COURSE OBJECTIVES:

The students will be able to:

1. Learn and understand the laboratory techniques in definitive removable partial denture.
2. Planning, Surveying and designing for fabrication of definitive removable partial dentures
3. Apply concepts of fabrication of definitive removable partial dentures on model / casts.

COURSE PLAN

WEEK	LESSON TOPIC	TEACHING/ ASSESSMENT METHOD
1 – 2 Impression Materials and Procedures for Removable Partial Dentures	Elastic materials for impression of partial dentures – cobalt chromium type Rigid materials Thermoplastic materials Impressions of the partially edentulous arch Individual impression trays	Practice step by step procedures in the fabrication of partial dentures Perform: Cast preparation Undercut block Wire work Wax pattern Teeth set-up Carving Finishing
3	Dental Surveying Step – by – step procedure in surveying a diagnostic cast Procedure for the final pathway of insertion	
4 Support for the Distal Extension Denture Base	Distal extension removable partial denture Factors influencing the support of a distal extensionbase	Duplicating a stone cast, Waxing the removable partial denture framework,



	Anatomic form impression Methods for obtaining functional support for the distal extension base	Spruing, investing, burnout, casting, and finishing of the removable partial denture framework, Making record bases Occlusion rims, making a stone occlusal template from a functional occlusal record, Arranging posterior teeth to an opposing cast or template
5 Occlusal Relationships for Removable Partial Dentures	Desirable occlusal contact relationships for removable partial dentures Methods for establishing occlusal relationships Materials for artificial posterior teeth Establishing jaw relations for a mandibular removable partial denture opposing a maxillary complete denture	
6	Class test	
7 – 8 Laboratory Procedures	Types of anterior teeth, Waxing and investing the removable partial denture before processing acrylic-resin bases, Processing the denture, Remounting and occlusal correction to an occlusal template Polishing the denture	
MIDTERM EXAMINATION		
9 Work Authorizations for Removable Partial Dentures	Work authorization Definitive instructions by work authorizations Delineation of responsibilities by work authorizations	
10 – 11 Initial Placement, Adjustment, and Servicing of the Removable Partial Denture	Adjustments to bearing surfaces of denture bases Occlusal interference from denture framework Adjustment of occlusion in harmony with natural and artificial dentition	Wax pattern Teeth set-up Carving Clasps Fabrication of wax rims Articulation Final wax-up Flasking and curing Finishing and polishing Patient quota may be assigned by department head as per requirement after successful completion of ideal partial denture fabrication
12- 13 Removable Partial Denture Considerations in Maxillofacial Prosthetics	Maxillofacial prosthetics Timing of dental and maxillofacial prosthetic care for acquired defects Intraoral prostheses: design considerations Maxillary prostheses Mandibular prostheses Jaw relation records for mandibular resection patients	
14	Summary and revision	
FINAL EXAMINATION		

LEARNING RESOURCES AND TEXTBOOKS:

1. McCracken's Removable partial prosthodontics by Alan B Carr and David T Brown 13th edition Elsevier (available online free downloads)

Title of Course	FIXED PROSTHODONTICS- I
Course Code	DT-FPROS 416
Duration	8 Hour a week (2 hours classroom teaching/ lecture followed by 6 hours of Laboratory-based and para-clinical practices)
Campus/ Location Office	OJHA campus
Total Credit Hours	4 Cr. Hours (2 + 2)
Accredited by	ALLIED HEALTH PROFESSIONAL COUNCIL PAKISTAN

COURSE INTRODUCTION:

To fulfil the current **MAJOR DISCIPLINARY COURSE REQUIREMENTS** of the Higher Education Commission, this course has been introduced in the BS Programs to get the students acquainted with the Major disciplinary courses.

The course is placed in 3rd year semester VI and is a course for BS-DCP Dental Technology. The purpose of this course is to gain enhance knowledge and understanding about role of Dental Technologist in fabrication of fixed prosthetic replacement.

This course provides comprehensive training for students with substantial knowledge and practical ability of Dental Technology. The ample possible training provides students with opportunities for service-learning activities in the community that promote the mission of the school, university, and profession. Since students already have knowledge of the anatomy, tooth morphology and dental materials they are capable of understanding the basic designing of the fixed prosthesis that will help achieve functional occlusion and aesthetic requirements.

This semester the course will be limited to fixed prosthodontics including metallic crowns and single unit bridges only where students will learn about the instrumentation, impression and making of the model, and materials used in Fixed Laboratory, Machine, Laboratory techniques and fabrication procedures.

COURSE OBJECTIVES:

The students will be able to:

1. Categorize indirect restorations using materials from which they are constructed.
2. Understand the impact of various factors on the performance of materials used in fixed prosthodontics, such as base metal alloys and high gold content alloys.
3. Identifying various margin and preparation designs and their applications.
4. Develop designs for single unit restorations.
5. Creating precise impressions on existing patient's casts / models using removable dies.

COURSE PLAN

WEEK	LESSON TOPIC	TEACHING/ METHOD	ASSESSMENT
1.	Introduction to fixed prosthodontics Requirements of prescription from dentists Communicating with the dentist for laboratory procedures	Exposure to the para-clinical and laboratory work by teaming up with internees and BDS program house officers	
2.	Restoration designs Metal restoration		



3.	Ditching the die	
4.	Framework design and metal selection for metal restorations	
5.	Mounting casts on an articulator	
6.	Wax pattern	
7.	Class test	
8.	Spruing and investing the wax pattern	
MIDTERM EXAMINATION		
9.	Casting methods	Minimum requirement of five (05) patients assessed for the fixed prosthodontics must be achieved out of which at least two cases must be planned independently by group of DCP students
10.	De-vesting the pattern	
11.	Class test	
12.	Finishing the cast	
13.	Sand blasting	
14.	Opaque layering	
FINAL EXAMINATION		

LEARNING RESOURCES AND TEXTBOOKS:

1. Basics of dental technology – a step-by-step approach by Tony Johnson, David G Patrick et al.
Publisher: Wiley Blackwell (section – 4 only)

Reference book:

1. Contemporary fixed prosthodontics by Rosentiel. Land. Fujimoto, Mosby 4th edition (available online free download)

Title of Course	FIXED PROSTHODONTICS- II
Course Code	DT-FPROS 427
Duration	8 Hour a week (2 hours classroom teaching/ lecture followed by 6 hours of Laboratory-based and para-clinical practices)
Campus/ Location Office	OJHA campus
Total Credit Hours	4 Cr. Hours (2 + 2)
Accredited by	ALLIED HEALTH PROFESSIONAL COUNCIL PAKISTAN

COURSE INTRODUCTION:

To fulfil the current **MAJOR DISCIPLINARY COURSE REQUIREMENTS** of the Higher Education Commission, this course has been introduced in the BS Programs to get the students acquainted with the Major disciplinary courses.

The course is placed in the 4th year semester VII taken as a continuation of topics already covered in 3rd year semester VI in the Dental Technology program. The purpose of this course is to gain enhance knowledge and understanding about role of Dental Technologist in Fabrication of Crown & Bridges. During this course the students will learn beyond metal crown and single unit bridges. They will practice metal – ceramic crown designing and multi- unit bridge designing in the laboratory and apply the practices done on models in patient – based cases limited to metal – ceramic crowns and single unit bridges under the supervision.

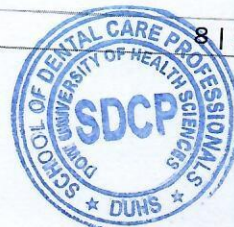
COURSE OBJECTIVES:

The students will be able to:

1. Apply the impact of various factors on the performance of materials used in fixed prosthodontics, such as base metal alloys and high gold content alloys.
2. Creating precise impressions of the patient's mouth and using them to produce casts with removable dies.
3. Develop functional occlusion on full-arch articulated casts.
4. Fabricate restorations on various types of articulators.
5. Develop designs for single and multi – unit restorations.
6. Learn about soldering as a fabrication / repair procedure.
7. Prepare the prosthesis by applying the understanding of correct margin designs

COURSE PLAN:

WEEK	LESSON TOPIC	TEACHING/ METHOD	ASSESSMENT
1.	Metal ceramic and all ceramic restoration – design and inter-face	Exposure to the para-clinical and laboratory work by teaming up with internees and BDS program house officers	
2.	Types and designs of bridges		
3.	Pontic design and Pontic classification		
4.	Connectors for all metal bridges		
5.	Producing a cast metal fixed restoration		
6.	Producing a metal ceramic fixed restoration		
7.	Class test		
8.	Occlusal Adjustment and Articulation in Bridge		
MIDTERM EXAMINATION			
9.	Minimal preparation of bridge		



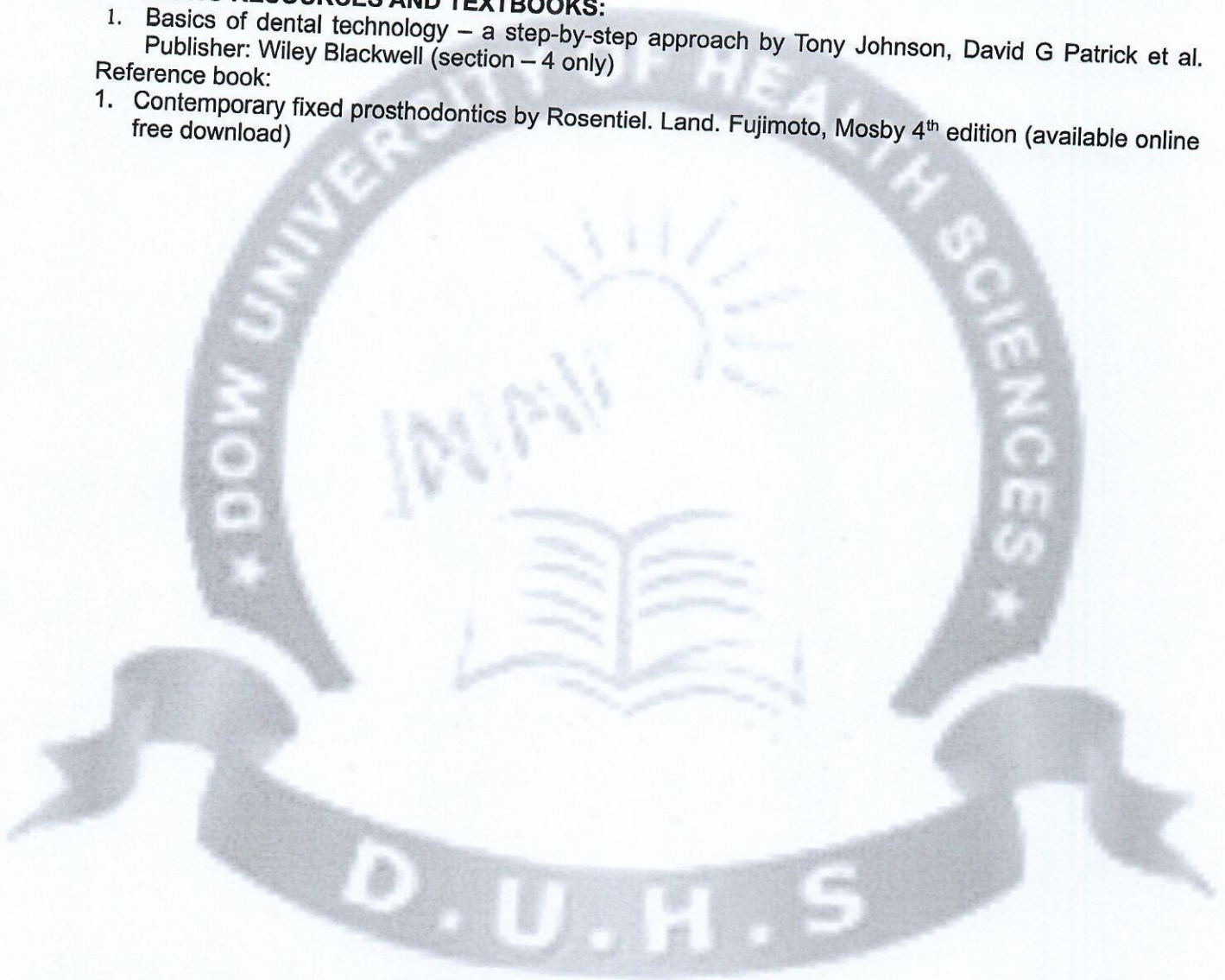
10.	Concept of Soldering technique	Minimum requirement of five (05) patients assessed for the fixed prosthodontics must be achieved out of which at least two cases must be planned independently by group of DCP students
11.	Finishing and Polishing of Metal and Metal-Ceramic Bridges	
12.	Class test	
13.	Concept of Implant supported prosthodontics	
14.	Common Errors and Troubleshooting in Bridge Fabrication	
	FINAL EXAMINATION	

LEARNING RESOURCES AND TEXTBOOKS:

1. Basics of dental technology – a step-by-step approach by Tony Johnson, David G Patrick et al.
Publisher: Wiley Blackwell (section – 4 only)

Reference book:

1. Contemporary fixed prosthodontics by Rosentiel. Land. Fujimoto, Mosby 4th edition (available online free download)



Title of Course	COMPLETE DENTURE- I
Course Code	DT-CDENT 416
Duration	8 Hour a week (2 hours classroom teaching/ lecture followed by 6 hours of Laboratory-based and para-clinical practices)
Campus/ Location Office	OJHA campus
Total Credit Hours	4 Cr. Hours (2 + 2)
Accredited by	ALLIED HEALTH PROFESSIONAL COUNCIL PAKISTAN

COURSE INTRODUCTION:

To fulfil the **MAJOR DISCIPLINARY COURSE REQUIREMENTS** of the Higher Education Commission that include both the foundation courses as well as the major courses. This course has been introduced in the BS Program of Dental Technology to get the dental technology students acquainted with the basic dental laboratory practices that commonly deals with the complete denture replacement and providing fabricated dentures to the people who have lost their teeth.

Since dental auxiliaries are the main workforce in the Dental team that cater the dental public health needs and requirements and they work in close coordination with the Dentist, it is crucial that they understand the connection between the Body (general Health) and the Mouth (oral health) particularly in aging population. A good denture is a means for a healthy dietary intake. Therefore, they should learn about the basic dental laboratory procedures and the patient requirement of dental prostheses for completely edentulous patients.

Complete Denture is a lengthy subject therefore this course has been divided into two parts. It is a major course for the Dental Technology students and is placed in the 3rd year as well as in the final year in semester VI and semester VII respectively.

COURSE OBJECTIVES:

The students will be able to:

1. Acquire basic knowledge of complete denture prosthodontics about its arts and science
2. Explain the fundamental treatment needs for the completely edentulous patients
3. Practice laboratory procedures in complete denture treatment

COURSE PLAN

WEEK	LESSON TOPIC	TEACHING/ METHOD	ASSESSMENT
1.	Introduction to complete denture Anatomical Landmarks of Significance in Complete Denture Treatment Residual Ridge Resorption	Minimum requirement of five (05) patients assessed for the complete denture prosthodontics must be achieved out of which at least two cases must be planned independently by group of Technology students	
2.	Pre-prosthetic Treatment (Modifying the Dentures)		
3.	Impression Techniques and Achieving working model		
4.	Construction of close-fitting impression tray with spacer for edentulous cases.		
5.	Principles and Concepts of Occlusion in Complete Denture Service		



6.	Maxillomandibular Relation: A Biological and Mechanical Contemplation	
7.	Articulators or Simulators in Complete Denture Prosthodontics Occlusion, articulators and facebows	
8.	Class test	
MIDTERM EXAMINATION		
9.	Selection and Modification of Teeth for Aesthetics and Function	Students must identify people requiring complete dentures during the community visits and design at least two complete dentures for them under supervision that they can submit after completion of Complete Denture – II course
10.	Aesthetics- selection and modification of teeth	
11.	Aesthetics- Principles of arrangement of teeth	
12.	Positioning and denture teeth	
13.	Try-in procedure in complete denture treatment	
14.	Community based elderly requirement- need assessment Programs	
FINAL EXAMINATION		

LEARNING RESOURCES AND TEXTBOOKS:

1. Techniques in complete denture technology by Tony Johnson and Duncan J Wood, Wiley-Blackwell (available online free downloads)
2. Basics of dental technology – a step-by-step approach by Tony Johnson, David G Patrick et al. Publisher: Wiley Blackwel (section 2)

Title of Course	COMPLETE DENTURE- II
Course Code	DT-CDENT 427
Duration	8 clock hours a week (2 hours classroom teaching/ lecture followed by 6 hours of Laboratory-based and para-clinical practices)
Campus/ Location Office	OJHA campus
Total Credit Hours	4 Cr. Hours (2 + 2)
Accredited by	ALLIED HEALTH PROFESSIONAL COUNCIL PAKISTAN

COURSE INTRODUCTION:

To fulfil the current **MAJOR DISCIPLINARY COURSE REQUIREMENTS** of the Higher Education Commission, this course has been introduced in the BS- Dental Technology Program to get the students acquainted with the Major courses.

The course is placed in 4th year semester VII and is a course for BS-Dental Technology. This course is a continuation of Complete Denture-I that has been taught in the 3rd year semester- VI.

COURSE OBJECTIVES:

The students will be able to:

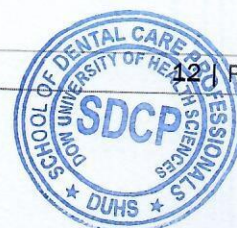
1. Apply knowledge and skills to fabricate complete denture casts to artistic ways.
2. Practice laboratory procedures in completion of complete denture fabrication
3. Understand and follow-up post – insertion complaints of patient and dentists

COURSE PLAN

WEEK	LESSON TOPIC	TEACHING/ METHOD	ASSESSMENT
1.	Laboratory procedure following trying-in procedure	Laboratory practice At least 2 complete dentures on ideal models At least 5 complete dentures on patients (including 2 identified during community visits)	
2.	Gingival contouring and polished surfaces		
3.	Waxing procedure		
4.	Flasking procedure		
5.	Wax elimination		
6.	Packing denture base material		
7.	Deflasking		
8.	Laboratory remount		
MIDTERM EXAMINATION			
9.	Copy dentures and sequelae of ill-fitted dentures Gagging	Laboratory practices At least 5 cases of repairing complete dentures	
10.	Immediate complete denture		
11.	Over-denture		
12.	Single complete denture		
13.	Relining, rebasing and repair of complete denture	At least 2 cases of overdentures	
14.	Osteo-integrated Implants retained complete denture Prosthodontics (special Techniques)		
FINAL EXAMINATION			

LEARNING RESOURCES AND TEXTBOOKS:

1. Techniques in complete denture technology by Tony Johnson and Duncan J Wood, Wiley-Blackwell (available online free downloads)



Title of Course	BASICS OF IMPLANT TECHNOLOGY
Course Code	DT-BITEC 407
Duration	8 clock hours a week (2 hours classroom teaching/ lecture followed by 6 hours of Laboratory-based and para-clinical practices)
Campus/ Location Office	OJHA campus
Total Credit Hours	4 Cr. Hours (2 + 2)
Accredited by	ALLIED HEALTH PROFESSIONAL COUNCIL PAKISTAN

COURSE INTRODUCTION:

To fulfil the current **MAJOR DISCIPLINARY COURSE REQUIREMENTS** of the Higher Education Commission, this course has been introduced in the BS- Dental technology Program to get the students acquainted with the Major courses.

The course is placed in 4th year semester VII and is a course for BS-DCP Dental Technology. The purpose of this course is to enhance knowledge and understanding about role of Dental Technologist in Fabrication of Dental Implant Prostheses.

This course provides comprehensive understanding to the students about instruments, the laboratory requirements, CAD CAM technology in theory and basics of its uses in the dental laboratory in the fabrication of dental implant abutments and prostheses. The department does not have CAD CAM facility; therefore, this topic will be limited to theoretical knowledge and basic understanding of cases handled using CAD CAM technology.

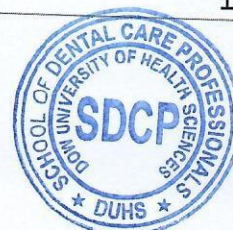
COURSE OBJECTIVES:

The students will be able to:

1. Describe and discuss the terms, design, function and importance of dental implants
2. Understand the implant abutment material with bio mechanical consideration
3. Fabricate and evaluate fixed and removable provisional restorations for implant cases.
4. Understand proper cleaning and sterilization procedures for implant abutments prior to clinical use.
5. Learn about the 3D technology uses in the dental laboratory

COURSE PLAN:

WEEK	LESSON TOPIC	TEACHING/ METHOD	ASSESSMENT
1.	Introduction to implant abutment materials	The students will practice on designing screw retained, cement – retained and implant supported removable partial dentures	
2.	Basis terminologies regarding implant abutment		
3.	Retaining abutment screws		
4.	Implant abutment connection		
5.	Prefabricated implant abutment		
6.	Provisional restoration (Fixed & Removable)		
7.	Class test		
8.	Customized impression technique (Screw & Cement retained)		
MIDTERM EXAMINATION			
9.	Bio mechanical Consideration		
10.	Provisional restoration for Titanium One piece Abutment		



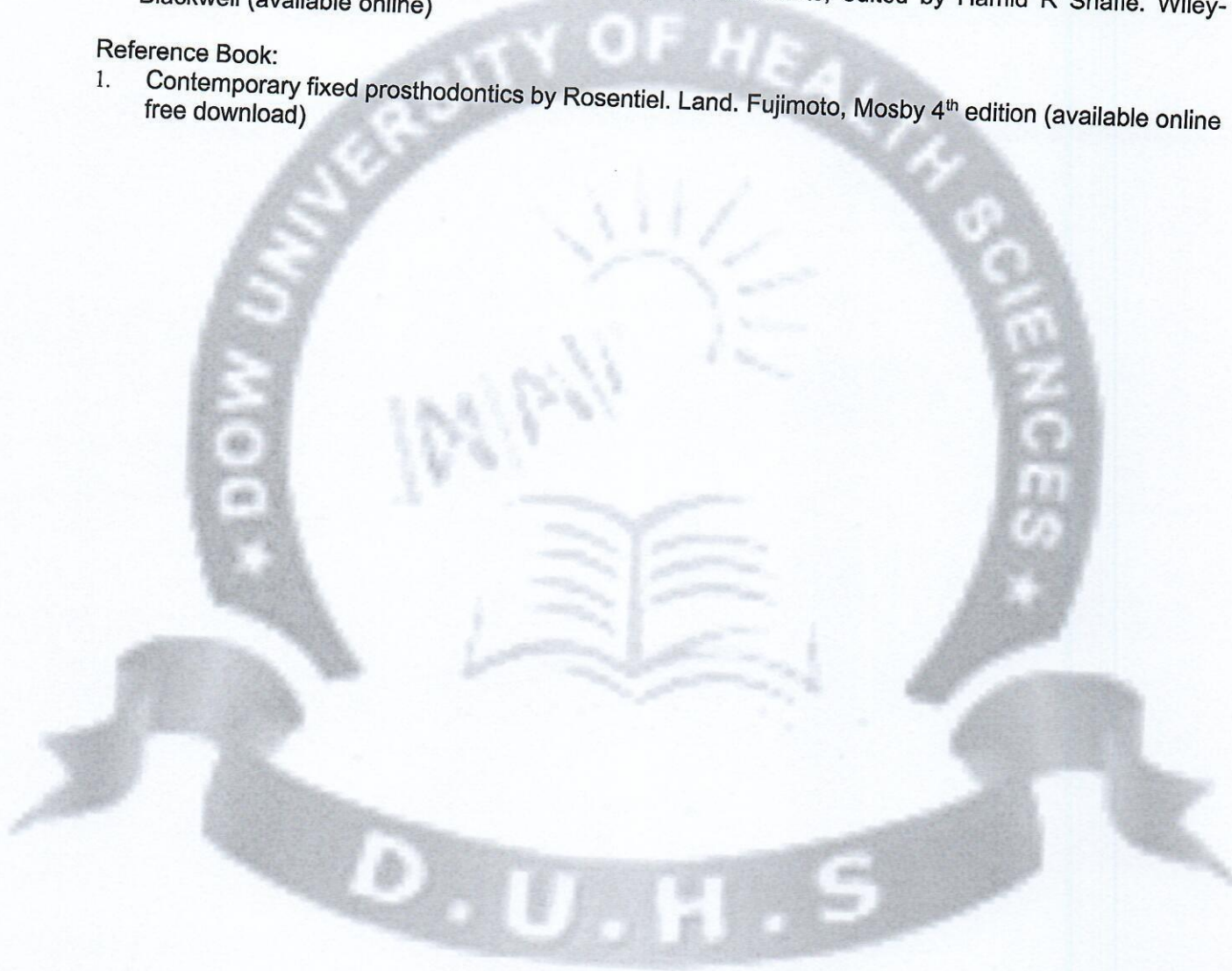
11.	Class test	
12.	Cleaning and Disinfection of Implant Abutment	
13.	Custom abutment manufacturing using (CAD CAM Technology)	
14.	Custom abutment manufacturing using (CAD CAM Technology)	
	FINAL EXAMINATION	

LEARNING RESOURCES AND TEXTBOOKS:

1. Clinical and Laboratory Manual of Dental Implant Abutments, edited by Hamid R Shafie. Wiley-Blackwell (available online)

Reference Book:

1. Contemporary fixed prosthodontics by Rosentiel. Land. Fujimoto, Mosby 4th edition (available online free download)



Title of Course	ORTHODONTICS TECHNOLOGY
Course Code	DT-OTECH 408
Duration	10 Hours a week (1 hour classroom teaching/ lecture followed by 9 hours of laboratory-based para-clinical/ laboratory and auxiliary practices)
Campus/ Location Office	OJHA campus
Total Credit Hours	4 Cr. Hours (1 + 3)
Accredited by	ALLIED HEALTH PROFESSIONAL COUNCIL PAKISTAN

COURSE INTRODUCTION:

To fulfil the current **MAJOR DISCIPLINARY AND FIELD EXPERIENCE REQUIREMENTS** of the Higher Education Commission, this course has been introduced in the BS- Dental Technology Program to get the students acquainted with the dental auxiliary practices in the specialized dental operatories and laboratories.

The course is placed in 4th year semester VIII and is major course for the BS-DCP Dental Technology.

COURSE OBJECTIVES:

At the completion of this course students will be able to:

1. Understanding basic mechanics and physics of orthodontic appliances
2. Understanding basic principles of fabricating orthodontic appliances in laboratory
3. Learn about functions and designs of semi-fixed and fixed functional orthodontic appliances
4. Fabricate removable appliance used during preventive and interceptive orthodontic treatment.
5. Design and fabricate retainers used after orthodontic treatment.

COURSE PLAN

WEEK	LESSON TOPIC	TEACHING/ ASSESSMENT METHOD
1	Recall introduction to orthodontics and its classification Theory of tooth movement	Methods will include practices of correct wire bending abilities. Followed by abilities to make different kind of clasps, springs and wire bending for retainers on the patient cast in the orthodontic laboratory.
2	Theory and practice Biological basis Development of functional appliances	
3	Basic wire bending techniques Using pliers Coils and loops	
4	Types of clasps required for anchorage and retention of orthodontic appliances Adam's clasps	Students will learn making twin blocks, bite blocks
5	Active appliances Screws, elastics, and bows	Students should be able to identify different parts of fixed orthodontic appliances and principles of handling
6	Types of springs required to generate forces in orthodontic movements z-spring, palatal finger spring, t-spring canine retractor	
7	Class test	Basic safety procedures must be practiced by the students in the orthodontic
8.	Removable functional appliances	



	Activators, Bionator, Functional regulator, Twin block	laboratory, especially in the handling of wires.
	Mid-term exam	
9	Space maintainer Mouth guards	
10	Trimming, Finishing and polishing of removable appliances	
11	Rigid Fixed functional: Herbst Fixed mandibular advancement appliances	
12	Flexible fixed functional: Jasper jumper, Forsus, Twin force Eureka spring	
13	Reasons for breakage of appliances Repair of broken appliances Duplication of appliances	
14.	Revision	

LEARNING RESOURCES AND TEXTBOOKS:

1. Basics of dental technology- a step-by-step approach 2nd edition by Tony Johnson, David G Patrick, Christopher W Stokes et al. Wiley Blackwell (available online free download)
Reference Book:
1. Dental Laboratory Technology- basic sciences, removable prosthodontics and orthodontics (Online available)

Title of Course	CROWN AND BRIDGE TECHNOLOGY
Course Code	DT-CRBRT 408
Duration	14 Hour a week (2 hours classroom teaching/ lecture followed by 12 hours of Laboratory-based and para-clinical practices)
Campus/ Location Office	OJHA campus
Total Credit Hours	6 Cr. Hours (2 + 4)
Accredited by	ALLIED HEALTH PROFESSIONAL COUNCIL PAKISTAN

COURSE INTRODUCTION:

To fulfil the current **MAJOR DISCIPLINARY AND FIELD EXPERIENCE REQUIREMENTS** of the Higher Education Commission, this course has been introduced in the BS- Dental Technology Program. The students have already learnt two courses in Fixed- Prosthodontics in the earlier semesters. The knowledge and skills they have gained in those courses will help them practice crown and bridge designing and fabrication in the laboratory in real time.

The course is placed in 4th year semester VIII and is major course for the BS-DCP Dental technology.

Since in public sector institution the CAD CAM technology is still not available, the students will get acquainted with the theoretical concepts of CAD CAM technology and practice hands – on limited to the workshops only in the specialized dental operatories and laboratories.

COURSE OBJECTIVES:

At the completion of this course students will be able to:

1. Learn and understand contemporary techniques in crown and bridge technology like CAD/CAM
2. Developing functional occlusion on full-arch articulated casts.
3. Fabricating restorations on various types of articulators.
4. Develop designs for single and multi-unit restorations.
5. Soldering as a fabrication/repair procedure.
6. Identifying various margin and preparation designs and their applications.

COURSE PLAN

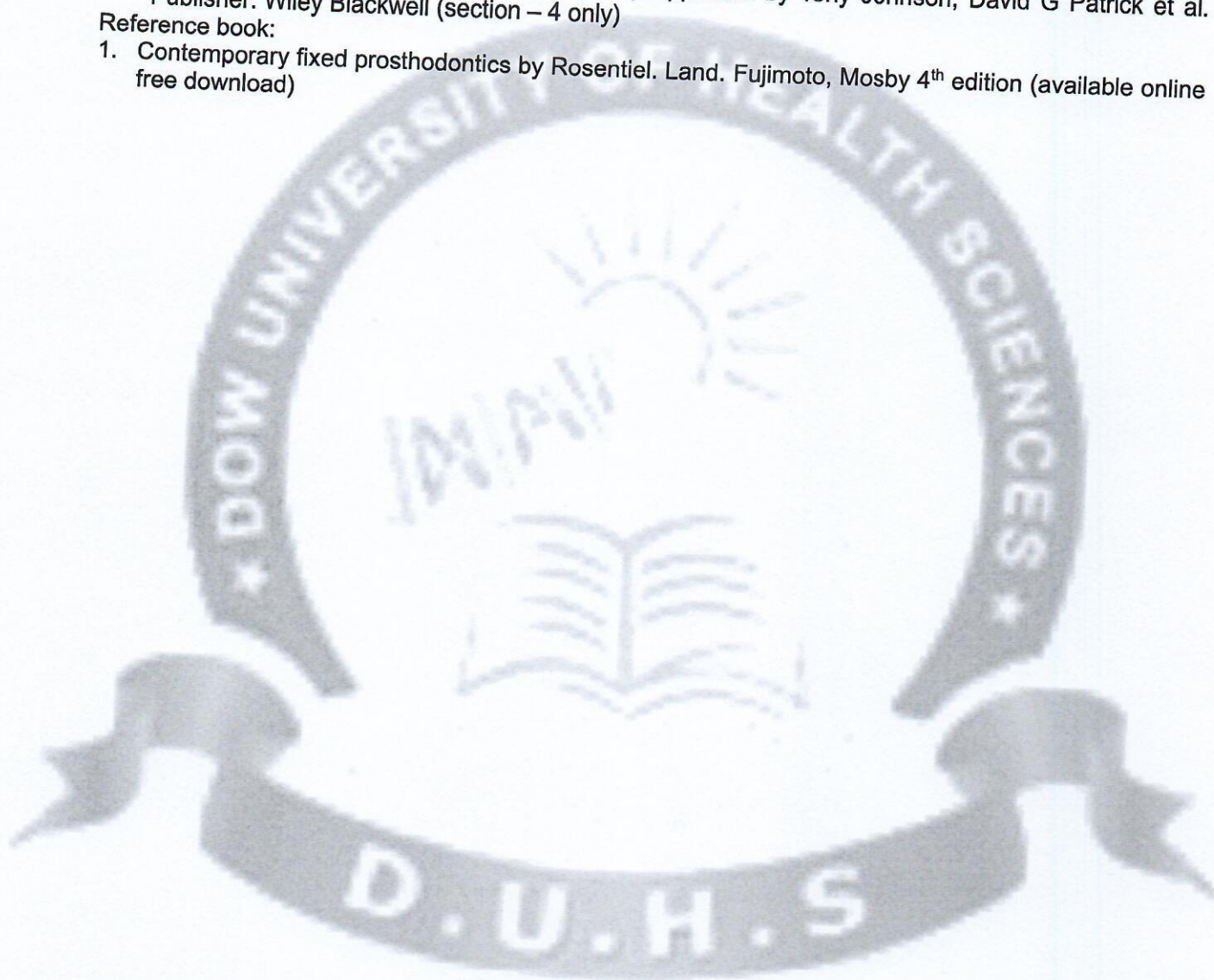
WEEK	LESSON TOPIC	TEACHING/ METHOD	ASSESSMENT
1.	Ceramic restoration	Minimum requirement of five (05) patients assessed for the fixed prosthodontics must be achieved out of which at least two cases must be planned independently by group of DCP students	
2.	Ceramic application (opaque layering & build up)		
3.	Ceramic trimming and finishing		
4.	Ceramic glazing & staining		
5.	Porcelain & veneering high strength ceramic substructure		
6.	Class test		
7.	Produce Resin bounded crown on refractory dies		
8.			
MIDTERM EXAMINATION			
9.	Producing single unit substructure and restoration		
10.	Integration of CAD CAM technology in crown and bridge fabrication		



11.	Class Test	
12.	Producing Bridges	
13.	Methods of advanced manufacture (CNC machine)	
14.	Laboratory steps of soldering procedure	
15.	FINAL EXAMINATION	

LEARNING RESOURCES AND TEXTBOOKS:

1. Basics of dental technology – a step-by-step approach by Tony Johnson, David G Patrick et al.
Publisher: Wiley Blackwell (section – 4 only)
- Reference book:
1. Contemporary fixed prosthodontics by Rosentiel. Land. Fujimoto, Mosby 4th edition (available online free download)



Title of Course	CAST PARTIAL DENTURE
Course Code	DT-CPD 408
Duration	14 Hour a week (2 hours classroom teaching/ lecture followed by 12 hours of Laboratory-based and para-clinical practices)
Campus/ Location Office	OJHA campus
Total Credit Hours	6 Cr. Hours (2 + 4)
Accredited by	ALLIED HEALTH PROFESSIONAL COUNCIL PAKISTAN

COURSE INTRODUCTION:

To fulfil the current **MAJOR DISCIPLINARY AND FIELD EXPERIENCE REQUIREMENTS** of the Higher Education Commission, this course has been introduced in the BS- Dental Technology Program. The students have already learnt a course in Partial Denture in the earlier semester with a theoretical and laboratory focus on metallic framework and designing. The knowledge and skills they have gained in that course will help them practice cast partial denture designing and fabrication in the laboratory in real time.

The course is placed in 4th year semester VIII and is major course for the BS-DCP Dental Technology. This will help the students complete their Capstone Project in the same semester.

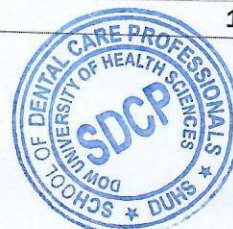
COURSE OBJECTIVES:

The course students will be able to:

1. Learn and understand the laboratory techniques of fabricating cast partial dentures in real time.
2. Produce successful cases of cast partial dentures for the patients in public and private sector

COURSE PLAN

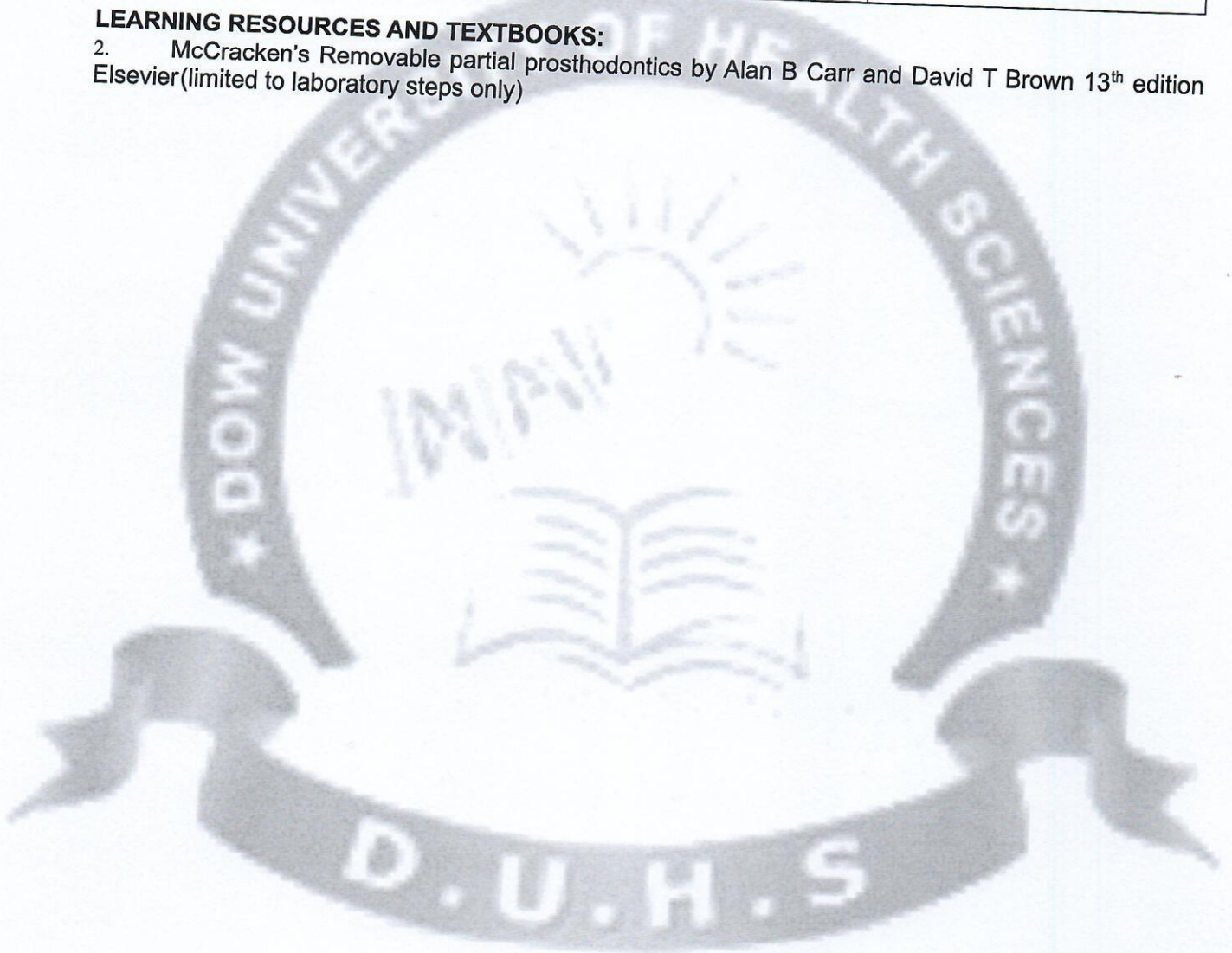
WEEK	LESSON TOPIC	TEACHING/ ASSESSMENT METHOD
1	Recall steps of fabrication of cast partial denture	Laboratory based step by step fabrication of cast partial dentures under supervision Followed by at least 2 cases independently. Assessment of each step will be monitored and marked
2	Components of partial denture	
3	Laboratory procedure for registering occlusal pathways	
4	Laboratory procedure of Surveying to block – out under- cuts and create path of insertion	
5	Laboratory procedure for duplication of master cast	
6	Laboratory procedure for producing different kinds of wax pattern for casting	
7	Laboratory procedure for investing the wax pattern design	
8	Laboratory procedure for casting of partial framework	
	Laboratory procedure for De-vesting	
MIDTERM EXAMINATION		
9	Setting up denture teeth	Patient quota may be assigned by department head as per requirement after successful completion of ideal partial denture fabrication
10	Flasking, Packing and Curing procedure	
11	Methods of reestablishing occlusion on a relined removable partial denture	
12	Laboratory management of broken clasp arms, Fractured occlusal rests	



	Distortion or breakage of other components— major and minor connectors Loss of a tooth or teeth not involved in support or retention of the restoration Loss of an abutment tooth necessitating its replacement and making a new direct retainer	
12	Other types of repairs Concept of repair by soldering	
14	Summary and revision	
	FINAL EXAMINATION	

LEARNING RESOURCES AND TEXTBOOKS:

2. McCracken's Removable partial prosthodontics by Alan B Carr and David T Brown 13th edition Elsevier (limited to laboratory steps only)



Title of Course	CAPSTONE PROJECT
Course Code	DT-CAPS 408
Duration	02 clock hours a week (2 hours classroom discussions, mentorship, followed by 4 hours of Laboratory-based and para-clinical practices)
Campus/ Location Office	OJHA campus
Total Credit Hours	6 Cr. Hours (2 + 4)
Accredited by	ALLIED HEALTH PROFESSIONAL COUNCIL PAKISTAN

COURSE INTRODUCTION:

To fulfil the current **CAPSTONE AND FIELD EXPERIENCE REQUIREMENTS** of the Higher Education Commission, Capstone Project has to be completed by each student (in group or individual) enrolled in **Dental Technology** Program.

The student may submit and present laboratory-based completion of at least one full real time unique patient case study before the completion of semester VIII. These cases may include the completion of patients for cases such as fixed, removable, (partial and / or complete) and orthodontic purposes.

