

1	Course title	Prosthodontics practical-1
2	Course number	1304344
3	Credit hours (theory, practical)	One credit hour (practical)
	Contact hours (theory, practical)	Blended: 3 hours (practical) / week + 1 hour (online) / week
4	Prerequisites/corequisites	
5	Program title	Doctor of Dental Surgery (DDS)
6	Program code	
7	Awarding institution	The University of Jordan
8	Faculty	Dentistry
9	Department	Removable Prosthodontics Dentistry
10	Level of course	Bachelor
11	Year of study and semester (s)	3d year, 1 <sup>st</sup> and 2 <sup>nd</sup> semester 2022/2023
12	Final Qualification	DDS
13	Other department (s) involved in teaching the course	None
14	Language of Instruction	English
15	Date of production/revision	

16. Course Coordinator:

*Office numbers, office hours, phone numbers, and email addresses should be listed.*

*Dr. Mohammad Bustani*

*Office hours: Monday 11 – 12, Phone number extension: 23552. Email: m.bustani@ju.edu.jo*

17. Other instructors:

*Office numbers, office hours, phone numbers, and email addresses should be listed.*

*Dr. Rasha AlAmoush, extension: 23552, Email: r.amoush@ju.edu.jo*

*Dr. Wijdan ElManaseer, extension: 23552, Email: w.almanaseer@ju.edu.jo*

*Dr Samiha Sartawi, extension: 23552, Email: s.sartawi@hotmail.com*

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## 18. Course Description:

This course is delivered to students through a blended learning strategy. Generally, this course covers all aspects and steps of constructing complete dentures and partial dentures including laboratory and clinical steps.

## 19. Course aims and outcomes:

### A- Aims:

This is preclinical course designed to introduce students to the knowledge of complete dentures and removable partial dentures as related to the laboratory skills needed with an emphasis on the clinical relevance of each step performed.

Course objectives are:

1. Provide the students with sufficient practical and laboratory background to assist them in managing completely/partially edentulous patients using removable complete or partial dentures. This is in the form of laboratory sessions where a pre-lab talk and a demonstration are given at the beginning of each laboratory session.
2. Provide hands-on training on the various steps involved in fabrication of complete and removable partial dentures.
3. Prepare the students for the clinical courses to be familiar with all clinical and laboratory steps in complete dentures and removable partial denture construction and how to manage edentulous patients.
4. Finish complete and partial dentures going through the entire laboratory and some clinical steps.

### Intended Learning Outcomes:

Knowledge and understanding:

1. Dental student should become well versed in the knowledge of basic principles of complete dentures and removable partial dentures terminology and construction.

Intellectual skills:

1. Ability to distinguish differences between dentate and edentulous statuses in regards to consequences of edentulism and the available treatment options for completely/partially edentulous patients.

Specific subject skills:

1. Describe the anatomy of the denture bearing areas in the mandible and maxilla, and understand the classification of edentulous arches.
2. Mention the different materials used throughout complete/partial dentures construction.
3. Practice making primary impressions for completely/ partially edentulous arches.
4. Practice making custom trays for completely/partially edentulous cases.

5. Describe the principles and techniques of providing postdam for complete dentures and practice preparing the cast in that area.
6. Practice making record blocks for edentulous cases.
7. Understand the required jaw relationships for edentulous patients and principles of facebow use.
8. Practice the principles of mounting for completely/partially edentulous cases.
9. Understand the principles of tooth selection, occlusion and setting of teeth for partial and complete dentures.
10. Practice the principles of setting teeth for completely/partially edentulous cases.
11. Understand the principles of waxing and festooning removable dentures.
12. Describe the procedures of processing complete dentures, flasking, deflasking, and finishing and polishing
13. Mention the functions, shape, form and location of different components of RPD.
14. Understand the basic principles of Removable partial denture (RPD) design.
15. Understand the basic procedure of cast surveying and know the necessary tooth preparation procedures for RPDs.
16. Perform or watch a demonstration on all the laboratory procedures and steps involved in the fabrication of an RPD: Drawing design, surveying, blocking out of undercuts, duplication, hardening, waxing, casting, divesting, finishing and polishing of metal frameworks.

#### Transferrable skills

1. Know how to authorize work to dental technicians.
2. Be prepared to perform the relevant clinical procedures.

#### 20. Topic Outline and Schedule:

1. Online material on the theoretical background of the procedure need to be accomplished during the session.
2. Online demonstration (video) of the laboratory procedure.
3. Practical application of the procedure by students under direct supervision in lab sessions.

**First semester:****1<sup>st</sup> week:**

Acquaintance, regulations

**Pre-lab reading:** overview about the steps of CD construction, impression trays, types of stock trays, impression materials, plaster and stone, importance of mixing ratios.

**Demo (e-learning):** making the upper and lower compound primary impressions for upper and lower edentulous manikin. Pouring the impression with Plaster of Paris.

**Laboratory exercise:** Making an upper or Lower primary compound impression for edentulous models by the students. Pouring the impression to fabricate a study model.

**Evaluation:** of the impression and the primary cast.

**2<sup>nd</sup> week:**

**Pre-lab reading:** Types of special trays. Use of spacers. Requirements of ST: rigidity, dimensional stability, adjustability, tissue coverage. Materials used in construction of individual trays.

**Demo (e-learning):** Construction of special trays (upper and lower) using light-cure acrylic resin.

**Laboratory exercise:** Making the upper or lower special trays on the primary models fabricated by students.

**Evaluation:** of the special trays.

**3<sup>rd</sup> week:**

**Pre-lab reading and demo (e-learning):** Steps of the final impression. Various secondary impression materials.

**Laboratory exercise:** Practice Border moulding using green stick on the special tray.

**4<sup>th</sup> week:**

**Pre-lab reading and demo (e-learning):** Beading and boxing the impressions and pouring with stone.

**Laboratory exercise:** Beading and boxing the final impressions (given to the students in the session).

**Evaluation:** of beaded and boxed impressions

**5<sup>th</sup> week:**

**Pre-lab reading:** Jaw relationship registration “horizontal and vertical planes”.

**Demo (e-learning):** Construction of upper and lower record base plates and upper wax rim.

**Laboratory exercise:** Making of upper and lower base plates and upper wax rim.

**6<sup>th</sup> week:**

**Demo (e-learning):** Construction of lower wax rim

**Laboratory exercise:** Making lower wax rim by the students.

**Evaluation**

**7<sup>th</sup> week:**

**Pre-lab reading (e-learning):** Various types of articulators and face bows.

**Demo (e-learning):** Sealing the rims together using registration medium and locating grooves. Split-cast technique (indices, grooves, notches) and mounting the upper and lower cast on average value articulator.

**Laboratory exercise:** Sealing the rims together, using registration medium and locating grooves. Mounting of maxillary cast on the articulator.

*8<sup>th</sup> week:*

**Demo (e-learning):** Mandibular cast mounting through the record blocks and the presumed CJR recorded by the students.

**Laboratory exercise:** mounting mandibular casts on the average value articulator.

**Evaluation**

*9<sup>th</sup> week:*

**Demo (e-learning) and Laboratory exercise:** Setting the upper anterior teeth.

**Evaluation**

*10<sup>th</sup> week:*

**Demo (e-learning) and Laboratory exercise:** Setting the upper posterior teeth.

**Evaluation**

*11<sup>th</sup> week:*

**Demo (e-learning) and Laboratory exercise:** Setting the lower anterior teeth.

**Evaluation**

*12<sup>th</sup> week:*

**Demo (e-learning) and Laboratory exercise:** Setting the lower posterior teeth.

**Evaluation**

*13<sup>th</sup> week:*

**Demo (e-learning) and Laboratory exercise:** Finalize teeth set up to provide balanced occlusion.

**Evaluation**

*14<sup>th</sup> week:*

**Demo (e-learning) and Laboratory exercise:** Complete wax-up and festooning of the trial denture.

**Demo (e-learning):** Flasking of the denture and boil-out, packing and curing. Laboratory remount. Finishing and polishing of complete dentures.

**Evaluation**

**First semester tasks plan:**

Week	Task	
1	Primary impression + Diagnostic cast	Discussion: .5 hr Hands-on: 2.5 hrs
2	Special Tray construction	Quiz & Discussion: .5 hr Hands-on: 2.5 hrs
3	Border Moulding	Quiz & Discussion: .5 hr Hands-on: 2.5 hrs
4	Beading & Boxing	Quiz & Discussion: .5 hr Hands-on: 2.5 hrs
5	Upper & Lower Record bases + Upper wax rim	Hands-on: 3 hrs
6	Lower wax rim	Hands-on: 3 hrs
7	Mounting Upper cast	Quiz & Discussion: .5 hr Hands-on: 2.5 hrs
8	Mounting Lower cast	Hands on: 3 hrs
9	Setting U ant teeth	Hands on: 3 hrs
10	Setting U post teeth	
11	Setting L ant teeth	
12	Setting L post teeth	
13	Finalize teeth set up & adjust occlusion	Quiz & Discussion: .5 hr Hands-on: 2.5 hrs
14	Festooning & Processing Lab steps	Quiz & Discussion: .5 hr Hands-on: 2.5 hrs

**Second semester:*****First week:***

**Acquaintance, orientation to the course, instructions, rules and regulations, materials and instruments needed from the students**

**Live demo and Exercise:** Alginate Primary impression. Pouring the impressions.

**Evaluation:** Each student will make one impression and one cast. Each will be evaluated.

***Second week:***

**Demo (e-learning) and Exercise:** Preparation of spaced special trays for the cases treated.

**Evaluation:** special trays will be evaluated

***Third week:***

**Demo (e-learning):** Surveyor and tools. Surveying of a diagnostic cast at zero tilt and a second tilt.

**Exercise:** Surveying the primary cast by the student on the zero tilt and on a tilt relative to the path of insertion, using a different color marker for this purpose.

**Evaluation:** theoretical knowledge regarding surveying the cast

***Fourth week:***

**Demo (e-learning) and Exercise:** mounting and surveying of posterior and anterior jumbo teeth.

***Fifth week:***

**Demo (e-learning):** Preparation of guiding planes and rest seats on posterior and anterior jumbo teeth.

**Exercise + Evaluation:** rest seat preps will be evaluated

***Sixth week:***

**Demo (e-learning) and exercise:** Preparation of guiding planes and rest seats on anterior and posterior acrylic teeth

**Evaluation:** rest seat preps on anterior and posterior teeth will be evaluated

***Seventh week:***

**Presentation:** Designing of removable partial dentures (Kennedy Class III)

**Evaluation:** designs will be discussed and evaluated (group work)

***Eighth week:***

**Presentation:** Designing of removable partial dentures (Kennedy Class I & II)

**Evaluation:** designs will be discussed and evaluated (group work)

***Ninth week:***

**Presentation:** Designing of removable partial dentures (Kennedy Class IV)

**Evaluation:** designs will be discussed and evaluated (group work)

***Tenth week:***

**Exercise:** RPD design presentations by the students (group work)

***Eleventh week:***

**Demo (lecture):** Duplication of the master model, production of the refractory cast, wax up, spruing of the waxed up, investing the cast, wax burn out, and casting of the metal.

***Twelfth week:***

**Practice for the final exam*****Thirteenth week:***

Preparation of record blocks for the final exam.

***Fourteenth week:***

Final exam: Setting of upper and lower teeth for completely edentulous jaws and festooning of the trial dentures. Designing of a removable partial denture case.

**Second semester tasks plan:**

<b>Week</b>	<b>Task</b>	
1	Primary impression + Diagnostic cast	Hands-on: 3 hrs
2	Special tray construction	Hands-on: 3 hrs
3	Surveying	Quiz& discussion: .5 hrs Hands-on: 2.5 hrs
4	Mounting jumbo teeth and surveying	Quiz& discussion: .5 hrs Hands-on: 2.5 hr
5	Preparation of jumbo teeth	Hands-on: 3 hrs
6	Preparation of acrylic teeth	Hands-on: 3 hrs
7	CI III design	Groups of 5s will be given a case to design : 1 hr Discussion & evaluation: 2 hrs
8	CI I & II design	
9	CI IV design	
10	RPD Design presentations + Training for the final exam	Quiz& discussion: .5 hrs Students' presentations: 2.5 hrs
11	Laboratory steps (lecture) + Training for the final exam	Quiz& discussion: .5 hrs Hands-on: 2.5 hrs
12	Training for the final exam	Hands-on: 3 hrs
13	Preparation of record blocks for the final exam	Hands-on: 3 hrs
14	FINAL EXAM	4 hrs



## 21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

Teaching methods:

Laboratory sessions, handouts and online videos and presentations are designed to achieve the course objectives.

- The acquired skills during this course will prepare the student for working on real patients and their models.
- Demonstrations performed are main component of the teaching methods.
- The students are responsible of the material covered during the course.
- Any difficulty or concern during the course should be passed to the instructors and course coordinator immediately.
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*Duration: 27weeks, 4 hours each (108 total)*

*Lectures/Practical Sessions: 1 session per week, 3 contact hours +1 hour for online studying.*

## 22. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Methods of evaluation:

Exams' Format: Lab exams are practical exams. However, they might be in other formats like spot exams and viva.

Make up Exams: It is applicable when an acceptable and valid excuse is presented at the applicable time.

Cheating:

- It is unethical and illegal by any means
- UJ regulations will be applicable
- The work should be your own, otherwise it will be scored zero

Dates: According to Registration Unit and the Examination committees.

Continuous assessment, Quizzes and Participation form portion of the assessment

The following is a suggestion of exams, assessment dates and grade distribution:

Assessment Type	Expected Due Date	Weight
Continuous Assessment	Throughout the Module	60
Final Practical Exam		40
Total		100

## 23. Course Policies:

## A- Attendance policies:

Absences from exams and handing in assignments on time:

According to the roles and regulations of the University of Jordan

## B- Health and safety procedures:

According to the roles and regulations of the Faculty of Dentistry

## C- Honesty policy regarding cheating, plagiarism, misbehaviour:

According to the roles and regulations of the University of Jordan

## D- Grading policy:

According to the roles and regulations of curriculum for the academic degree of Doctor of Dental Surgery (DDS)

## E- Available university services that support achievement in the course: University Website

## 24. Required equipment:

Phantom heads, light cure units, burners, straight handpieces

## 25. References:

## A- Required book (s), assigned reading and audio-visuals:

*Textbooks:*

## Complete Denture Prosthodontics:

□□ Essentials of Complete Denture Prosthodontics by Sheldon Winkler (1994)

□□ Prosthodontic Treatment for Edentulous Patients: Complete Dentures and Implant-Supported Protheses by George A. Zarb, Charles L. Bolender, Steven E. Eckert, and Aaron H. Fenton (2003)

□□ Prosthetic Treatment of the Edentulous Patient, 4th Edition. RM Basker and JC Davenport; 2002, Blackwell Munksgaard Publishers

□□ The Complete Denture: A Clinical Pathway. Michael MacEntee; 1999. Quintessence Publishing Co, Inc

□□ Clinical dental Prosthetics, 4th edition. Roy MacGregor

- □ Complete denture Prosthetics, 3rd Edition. RJ Neill and RI Nairn; 1990
- □ Techniques in Complete Denture Technology, 1<sup>st</sup> edition. Johnson, Anthony & Wood, Duncan. ;(2012)

Partial Denture prosthodontics:

- □ McCracken's Removable Partial Prosthodontics (Carr, McCracken's Removable Partial Prosthodontics) by Alan B. Carr, Glen P. McGivney, David T. Brown. Elsevier, 2005, 11th ed.
- □ A color Atlas of Removable Partial Dentures by Basker R.M., Heath J.R., Ralph, J.P. Wolfe Medical Publications Ltd, 1988.
- □ Stewart's Clinical Removable Partial Prosthodontics by Rodney D. Phoenix, David R. Cagna, Charles F. Defreest. Quintessence Publishing (IL); 4 edition (October 2008)
- □ Dental Laboratory Procedures. Removable Partial Dentures, Volume 3 (v. 3)

B- Recommended books, materials, and media:

26. Additional information:

Concerns or complaints should be expressed in the first instance to the course instructor. If no resolution is forthcoming then the issue should be brought to the attention of the course coordinator and the department Chair and if still unresolved to the Dean. Questions about the material covered in the lectures, notes on the content of the course, its teaching and assessment methods can be also sent by e-mail or discussed directly with the corresponding lecturer on their designated office hours.

Name of Course Coordinator:----- Signature: ----- Date: -----

Head of curriculum committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of curriculum committee/Faculty: ----- Signature: -----

Dean: ----- -Signature: -----

Copy to:  
 Head of Department  
 Assistant Dean for Quality Assurance  
 Course File