

SYLLABUS

COURSE: DEPS 2911 Removable Partial Dentures
SEMESTER: Spring
CREDIT HOUR: 2.0

REVISED: 2006
REPRINTED: 2007

COURSE DIRECTOR: Sam R. Adkisson, D.D.S.

GOAL

This course is a part of in the series of preclinical preparation courses in basic prosthodontic principles. The purpose of this course is to introduce the student to the basic principles of removable partial prosthodontics. The course will address the treatment of patients requiring a removable partial denture (RPD). Students will acquire the knowledge and skills to diagnose and treatment plan patients requiring an RPD. They will learn the fundamentals of nomenclature, classification, survey/design, and mouth preparation along with the basic sequence of treatment as it relates to the construction, delivery and maintenance of an RPD. They will become proficient in designing basic RPDs and in the preparation of work authorizations for their production in the dental laboratory. They will gain a knowledge of and appreciation for the supportive dental laboratory procedures.

It is important during this course that the student gain a fundamental background in the following areas of removable partial prosthodontics:

1. Treatment planning; survey and design of the removable partial denture.
2. Mouth preparation for the RPD patient; surveyed abutment crowns.
3. Making the master impression and master cast(s) with tripod marks.
4. Preparation of a work authorization and related regulatory requirements.
5. Preparation of materials/information for submission to a licensed commercial dental laboratory.
6. Try-in and fitting the RPD framework; altered cast impressions; completion of the RPD.
7. Delivery/insertion, adjustment, home-care instructions, recall/maintenance repair and refitting.
8. Alternate design concepts and treatment outcomes:
 - a. Removable Partial Overdenture
 - b. Rotational Path RPD
 - c. Swing-Lock Rpd
 - d. Flexible RPD
 - e. Esthetic Conventional Clasping
 - (1) Saddle Lock
 - (2) Estheticclasp
 - (3) Equipoise
 - f. Treatment outcomes with Removable Partial Denture Therapy

OBJECTIVES

I. REMOVABLE PARTIAL DENTURES WITH CONVENTIONAL CLASPING:

A. Introduction and Terminology

1. Define

- 1.1 Removable Partial Denture (R.P.D.)
- 1.2 Tooth-supported RP.D.
- 1.3 Tooth/tissue-supported R.P.D.
- 1.4 Abutment Tooth
- 1.5 Height of Contour
- 1.6 Undercut
- 1.7 Guiding Planes

- 2. Describe Kennedy's classification of edentulous arches
- 3. Describe Applegate's rule applying to Kennedy's classification
- 4. Describe the three classes of levers.
- 5. Explain which class of lever is the best design for a R.P.D.

B. Removable Partial Denture Components

- 1. Name the components of a R.P.D.
- 2. Describe the function of a major connector.
- 3. List the indications and contraindications of each type of mandibular major connector.
- 4. Describe the desired cross-sectional shape of a lingual bar and lingual plate major connector.
- 5. Give the minimal distance in millimeters from the marginal gingival to the superior border of the lingual bar.
- 6. List basic types of maxillary major connectors.
- 7. Describe the indications and contraindications of each type of maxillary major connector.
- 8. Describe the size, shape and location of "beading grooves" placed on the R.P.D. Master Cast.
- 9. List the purposes of minor connectors.
- 10. Describe the best way for a minor connector to cross the gingiva.
- 11. Describe all types of acrylic resin retention and indicate the most preferable type.

12. List the basic rules of rest design and the function of a rest.
13. Describe the proper form of occlusal, cingulum, and incisal rest seats.
14. Describe the indications and contraindications of occlusal, cingulum and incisal rest seats.
15. Describe how to locate the fulcrum line.
16. Explain why guiding planes determine the path of placement for R.P.D.'s.
17. List the components of a clasp assembly.
18. List the principles of clasp design.
19. List six types of R.P.D. clasps.
20. Describe the function of an indirect retainer.

C. Surveying

1. Describe the purpose of using a surveyor in R.P.D. treatment.
2. List the objectives essential to surveying a diagnostic cast.
3. List the objectives for surveying the master cast.
4. Describe a method for recording and preserving the relationship of the cast to the surveyor.
5. List the factors that must be considered when selecting the path of placement for a R.P.D.
6. Describe how the path of placement can be modified by changing the tilt of the diagnostic cast on the surveyor table.
7. Describe the ideal size and shape of guiding planes.
8. Describe the placement and function of guiding planes.
9. Describe how to identify proposed mouth modifications on the diagnostic cast.
10. Describe the best location for indirect retainers with Kennedy Class I and II R.P.D.'s
11. Describe the advantage of a bar-type clasp over a cast circumferential clasp when placed on the abutment teeth adjacent to a distal extension base.
12. List the factors which influence a clasp arm's flexibility.
13. Specify the maximum amount of undercut for Wironium cast clasps and wrought wire combination clasps.
14. Describe the requirement for passivity of a retentive clasp arm.
15. Describe the purpose of stabilizing components.

D. Tooth modifications and survey crowns

1. Explain why each abutment tooth should be carefully evaluated as to whether a restoration is necessary and what kind of restoration should be used.
2. Describe why the location of an occlusal rest should be considered prior to preparing the abutment tooth for a crown or onlay.
3. Explain why the rest seat should be placed after proximal reduction has been accomplished.
4. Describe a situation for using a silver amalgam alloy as support for an occlusal rest.
5. List the steps for abutment preparation on sound tooth structure or existing restoration.
6. Explain why a three-quarter crown is not as ideal a restoration as a full crown for a R.P.D. abutment.
7. Describe the procedure of ledging an abutment crown for receiving a reciprocating clasp and describe where the ledge should be placed relative to the location of the clasp.
8. Describe the disadvantage of treatment planning a resin-veneered crown for direct retainers and describe how the resin-gold configuration could be made to overcome this disadvantage.
9. Explain why an onlay is not as ideal a restoration as a full crown for a R.P.D. abutment tooth.
10. Explain when a fixed partial denture is indicated for a single tooth replacement.
11. Describe some common situations where splinting may be advisable.

E. Fitting the cast framework

1. Describe the use of disclosing media such as wax in fitting the cast framework in the mouth.
2. Explain how occlusal interferences with the cast framework are eliminated in the mouth.

F. Altered cast technique

1. List the reasons why an altered cast (or corrected cast) procedure would be advantageous for tooth-tissue supported removable partial dentures.
2. Explain when an altered cast procedure would be indicated or contraindicated.
3. Describe an acceptable clinical procedure for obtaining an altered cast impression.
4. Describe how to box and pour an altered cast impression.
5. Compare the value of an altered cast procedure for a mandibular vs. a maxillary R.P.D.

- G. Record bases, occlusal registrations, articulator mounting
1. Illustrate the construction of record bases for a Removable Partial Denture.
 2. Render a description of the technique for facebow transfer and records for mounting casts on a semi-adjustable articulator.
- H. Tooth selection, tooth arrangement and wax try-in
1. List criteria used in tooth selection for removable partial dentures.
 2. Depict some of the problems that may arise in tooth arrangement for a removable partial denture.
 3. List the advantages that may flow from doing a wax try-in of a removable partial denture.
- I. Laboratory procedures for completing the removable partial denture
1. Outline the procedure for waxing denture base contours.
 2. Describe the laboratory procedures for investing, boilout, packing, processing acrylic resin, recovery, remount and polishing a removable partial denture.
- J. Delivery/insertion, adjustment, and patient instruction
1. Describe how a removable partial denture is delivered/inserted and adjusted.
 2. Outline the instructions to be given to a patient receiving a removable partial denture for the first time.
 3. Describe how to management the post-insertion appointments for adjustment of a typical removable partial denture.
 4. State the average useful lifespan of a typical removable partial denture.
- II. ALTERNATE DESIGN CONCEPTS
- A. Be able to explain the design concept and method of operation of:
1. Removable Partial Overdenture
 2. Rotational Path RPD
 3. Swing-Lock RPD
 4. Flexible RPD
 5. Esthetic Conventional Clasping
 - (1) Equipoise
 - (2) Estheticclasp
 - (3) Saddle Lock
- B. Be able describe the expected rate of success of Removable Partial Dentures as a patient treatment modality. Be able to discuss case selection as a factor in the determination of successful treatment.

RESOURCES

I. Media Resources

A. Printed Media

1. Required manual

Removable Partial Dentures Lab Manual, 1995, 2nd ed.
Robert L. Schneider, D.D.S. (modified with permission for UTDB)

II. Human Resources

Sam R. Adkisson, D.D.S.
Room 408, Phone: 713 500-4140
Email: Sam.R.Adkisson@uth.tmc.edu

Rodney F. Beetar, D.D.S.
Room 409, Phone: 713-500-4343
Email: Rodney.F.Beetar@uth.tmc.edu

Thomas L. Hurst, D.D.S.
Room 429-D, Phone: 713-500-4422
Email: Thomas.L.Hurst@uth.tmc.edu

Robert L. Engelmeier, D.M.D.
Room 429C, Phone: 713-500-4165
Email: Robert.L.Engelmeier@uth.tmc.edu

Amy Ridall, D.D.S., Ph.D
Room 411A, Phone: 713-500-4577
Email: Amy.Ridall@uth.tmc.edu

Edgar N. Starcke, D.D.S.
Room 429D, Phone: 713-500-4337
Email: Edgar.N.Starcke@uth.tmc.edu

Raymond G. Koeppen, DDS
Room 429D, Phone 713-500-4136
Email: Raymond.G.Koeppen@uth.tmc.edu

STUDY PLAN AND REQUIREMENTS

DEPS 2911 Removable Partial Dentures is an introductory course that addresses the subject of Removable Partial Denture Prosthodontics. The didactic and laboratory sessions have been sequenced to provide maximum integration between understanding the principles of diagnosis and treatment of the prosthodontic patient and attaining competency in the technical skills used in performing prosthodontic treatment procedures. The didactic component consists of lectures/seminars that will introduce the fundamental principles associated with the laboratory exercises that follow. Before each laboratory session the procedures to be completed will be described in detail. To maximize the learning experience each student should (1) read the assigned material, (2) attend class and (3) do all laboratory projects in a timely manner.

Satisfactory completion of the course requires:

1. A thorough understanding of the didactic and laboratory components is essential for mastering the fundamental skills required for entry into the third year prosthodontic clinic.
2. Minimal passing grade – 70.
3. Attendance in lecture and laboratory is mandatory.
4. All laboratory projects must be completed with approval by the stated deadline of April 27, 2007.

Time Requirements

Estimated number of hours that the average students should expect to devote to out-of-class or home study:

Assigned Reading: RPD Manual, 280 pages (22 hours)
Additional Laboratory Practice: (10 hours)

The average student is expected to devote approximately one hour reading/study in preparation for each of the 14 four-hour sessions to satisfy reading assignments as defined in the accompanying course outline. Preparation for the midterm and final written examinations will require additional time on an “as required” basis.

As this course progresses it is necessary to make changes and adjustments to the schedule. The means of communicating information to all students taking this course is a weekly email entitled **Advance Notes**. It is important that you review the **Advance Notes** email each week so that you will know exactly how the course will proceed and what is expected of you. The Course Director and faculty for this course are intensely interested in making this an interesting and productive preclinical experience for you. Our course logo says it all: Plan your work – think ahead. We want you to be prepared for working in the clinic as your Third year approaches!

1. The lecture sessions in this course present the entire sequence of patient treatment with removable partial dentures – from initial diagnostic considerations through delivery and maintenance of the prosthesis.
2. The laboratory sessions focus on the dentist's primary responsibility, i.e. survey, design and prescription of the prosthesis.

Constructive suggestions are welcomed by the Course Director.

**DEPS 2911 REMOVABLE PARTIAL DENTURES
Spring 2007 Lecture and Lab Schedule**

Lectures: Friday, 1-1:50 pm, Room 132
Laboratories: Friday, 2-4:50 pm, Room B54

Sess	Date	Session Topic	Presenter
1	Jan 5	<p>Lecture:</p> <ol style="list-style-type: none"> 1. Introduction to course An overview of removable partial prosthodontics The Kennedy Classification System Recognition of RPD components Biomechanics of RPDs 2. RPD components in function – Part I <p>Lab:</p> <ol style="list-style-type: none"> 1. Construct Wax Box 2. Embed 4 natural teeth in stone 3. Practice exercise on Kennedy Classifications 4. Locate surveyor instrument package in student Kit <p>Reading: RPD Manual Chapters 1,2,3,4,6</p>	<p>Adkisson Koeppen</p> <p>Faculty</p>
2	Jan 12	<p>Lecture:</p> <ol style="list-style-type: none"> 1. RPD components in function – Part II 2. The basic survey and design procedure (developing the treatment plan) <p>Lab:</p> <ol style="list-style-type: none"> 1. Survey and Design Cast #1 2. Complete Work Authorization <p>Reading: RPD Manual Chapters 5,7,8,9,10,11,12</p>	<p>Koeppen Adkisson</p> <p>Faculty</p>
3	Jan 19	<p>Lecture:</p> <ol style="list-style-type: none"> 1. Preparation of the mouth (achieving the treatment plan and RPD design goals) Guideplanes, rest seats, composite bonded rests. Surveyed crowns for abutment teeth. 2. Generating the master cast using AccuDent. Texas Dental Practice Act and State Dental Board Regulations. Work Authorizations/sending cases to the dental lab. <p>Lab:</p> <ol style="list-style-type: none"> 1. On the natural teeth embedded in a stone block during Session #1 you now prepare rest seats and guideplanes. 2. Survey and Design Cast #2 Prepare rest seats and guideplanes on the stone cast Complete Work Authorization <p>Reading: RPD Manual Chapters 13,14,16, 29</p>	<p>Hurst</p> <p>Beetar</p> <p>Faculty</p>

Sess	Date	Session Topic	Presenter
4	Jan 26	<p>Lecture: 1. RPD framework production in the dental lab. Framework try-in/fitting with disclosing wax. Altered cast impressions</p> <p>Lab: 1. Survey and design cast #3 Prepare rest seats and guideplanes on the stone cast Complete Work Authorization</p> <p>Reading: RPD Manual Chapters 15, 17, 18, 19</p>	Beetar
5	Feb 2	<p>Lecture: 1. Making maxillomandibular records, facebow transfer, articulator mountings, shade selection</p> <p>Lab: 1. Survey and design cast #4 Prepare rest seats and guideplanes on the stone cast Complete Work Authorization</p> <p>Reading: RPD Manual Chapter 20</p>	Hurst Faculty
6	Feb 9	<p>Lecture: 1. Selecting and arranging teeth for RPDs Wax try-in Final wax-up for processing</p> <p>Lab: 1. Survey and design cast #5 Prepare rest seats and guideplanes on the stone cast Complete Work Authorization</p> <p>Reading: RPD Manual Chapter 21, 22, 23</p>	Adkisson Faculty
7	Feb 16	<p>Lecture: 1. Acrylic processing in the dental lab Recovery, remount, equilibration, trim, polish Insertion/delivery, instructions to patient regarding home care, eating, speaking, follow up adjustment visits, troubleshooting, replacement</p> <p>Lab: 1. Survey and design cast #7 Prepare rest seats and guideplanes on the stone cast Complete Work Authorization</p> <p>Reading: RPD Manual Chapter 24</p>	Beetar Faculty

Sess	Date	Session Topic	Presenter
8	Feb 23	<p>Midterm Written Exam Rooms B81 and 132 (20% of course grade; one hour; 50+ questions/multiple choice, true/false; fill in the blank. Cumulative = must include questions from previous prosthodontic department courses.)</p> <p>Lecture: 1. Temporary/provisional/treatment RPDs RPD repairs, relines, modifications/conversion to temporary complete denture Review of the clinical steps in RPD treatment/construction</p> <p>Lab: 1. Survey and design cast #8 Prepare rest seats and guide planes on the stone cast Complete Work Authorization</p> <p>Reading: RPD Manual Chapters 25, 26, 27, 28 and Appendices I and II</p>	<p>Adkisson</p> <p>Hurst</p> <p>Faculty</p>
9	Mar 2	<p>Lecture: 1. Removable partial overdentures Review Midterm Exam</p> <p>Lab: Practical Exam A (10% of course grade; survey and design a cast that you have seen before; prepare rest seats and guideplanes on the cast; complete work authorization. Test period ends at 5 pm; turn in for grading. Our grading method will include grading by two faculty members, plus review of all by course director).</p> <p>Reading: RPD Manual Chapter 30</p>	<p>Adkisson</p> <p>Adkisson</p>
10	Mar 9	Texas Independence Day	
11	Mar 16	<p>Practical Exam B (30% of course grade; survey and design a cast that you have not seen before; prepare rest seats and guideplanes on the cast; complete Work Authorization. Test period ends at 5 pm; turn in for grading. Our grading method will include grading by two faculty members plus review of all by course director. This practical is weighted more heavily since it represents your competency exam in this subject area for the year.</p> <p>As you complete the Practical Exam B we will be handing out the Challenge Cast. This is one last design exercise. The idea is that you will pick up a cast, take it home and survey/design the case at your leisure. On April 27 (the last session of the course), each student will have about a 10 minute meeting with one of the course faculty members to discuss and defend (explain) your design. This will be 10% of your course grade. The idea is that you will have a “challenge” and be able to demonstrate your ability to develop a solution of your own. Since the casts will be varied, it will also be a challenge for the faculty since there is no school solution.</p>	Adkisson

Sess	Date	Session Topic	Presenter
	Mar 23	<i>Spring Break</i>	
12	Mar 30	<p>Lecture: 1. Explanation of Simulation Exercise</p> <ol style="list-style-type: none"> a. We will move to the Simulation Lab and pair up. b. One student will be the dentist and the other will be the assistant. c. Using the diagnostic cast design and models simulating the very first case from Session 2, you will prepare rest seats and guideplanes on the manikin. d. A PowerPoint presentation will guide us initially. After we get in the Simulation Lab the faculty will be distributed to help you with this exercise. <p>Lab: Simulation Center</p> <p>Note: Table Clinics on display from 11:30 a.m. to 1:00 p.m.</p>	Adkisson
13	April 6	Good Friday	
14	April 13	Star of the South Dental Meeting	
15	April 20	<p>Lecture: 1. Alternate Design Concepts Explanation of Simulation Same procedure as March 30 Student dentist/assistant roles will be reversed</p> <p>Lab: Simulation Center</p>	Adkisson
16	April 27	<p>Lecture: 1. How Successful are RPDs???</p> <p style="text-align: center;">Course Evaluation</p> <p>(Demographics in disguise)</p> <p>Lab: 2. Presentation/discussion/defense of your challenge cast design (this exercise is graded immediately and represents 10% of our course grade).</p> <p>Note: Last day of classes in this semester.</p>	Adkisson Faculty
	May 1 8-9:50 am	<p>FINAL WRITTEN EXAM Room 207</p> <p>(Our department chairman has directed that all of our exams will be cumulative, covering any questions from other pros department courses you have completed: At this point, you will have questions from 1901, 2907, 2908, 2910, 2911 and 2723.)</p> <p>Exam usually involves 100 questions, 2 hour maximum to complete and represents 30% of your course grade.</p>	Adkisson

EVALUATION METHODS

The students' degree of proficiency in this area will be assessed by the results obtained from two (2) written examinations and three (3) practical laboratory examinations. Each of the following areas must be satisfactorily completed before a passing grade can be issued.

- | | | |
|----|---|----------------------|
| 1. | Midterm Written Examination | 20% of course grade. |
| 2. | Practical Examination A | 10% of course grade |
| 3. | Competency Examination B (Practical) | 30% of course |
| 4. | The Challenge Practical Examination C (Practical) | 10% of course grade |
| 5. | Final Written Examination | 30% of course grade |

All examinations will be based on information presented in the reading assignments, lecture, handouts and laboratory instruction. All examinations in the Department of Prosthodontics are **cumulative** in content. The written examinations may consist of multiple choice, true/false, matching, and/or essay questions. The practical examinations (as indicated above) will involve a performance requirement to prove proficiency in prosthodontic procedures. Daily laboratory exercises will be graded on the basis of acceptable/unacceptable and must be completed to the level of acceptable before the student can proceed to the next exercise. Grades for laboratory exercises will be recorded on a grade sheet which will be found only in the **Laboratory** Manual for the course. Copies of this form will not be accepted. All exercises must be completed and the grade sheet turned in no later than April 27, 2007, the last day of class unless officially excused. Final grades for this course will be a sum total derived from the five examinations listed above using the weighted values given for each examination. A minimal grade of 70 is considered a passing score. Grades below 70 will require remediation or repetition of the course as determined by the appropriate Evaluation and Promotion Committee after the course is ended.

Attendance Policy

On time attendance is mandatory for this course. As a matter of courtesy to the speaker and to get maximum benefit from the lecture, you must be in your seat no later than 1:00 pm on the class days. You must also be on time in attendance for all laboratory periods.

Professionalism Policy

As a courtesy to the instructors and to your colleagues, the following disruptions will not be tolerated during the class:

- a. Audible signals emitting from pagers or cellular phones
- b. Talking on cellular phones during class
- c. Leaving class after the presenter has started or before the presenter has concluded
- d. Eating food during class except when a class is scheduled at lunchtime
- e. Engaging in audible conversations with colleagues during the presentation
- f. Failure to adhere to the dress code as defined in the current *Student Guide to Academic Studies*
- g. Unprofessional behavior or language directed at any instructor, staff, or colleague
- h. Intentional physical destruction of equipment or building facility

The first occurrence will result in a warning to the student. Any subsequent occurrence will result in the student being asked to leave the class, which will result in the recording of an unexcused absence.