

Revised: 5th September 2007

King Saud University
College of Dentistry
Department of Prosthetic Dental Sciences

SDS 431 Course
Clinical Fixed Prosthodontics I

Course Director: **Dr. Sharifa Al-Shehri (MUC)**

Academic Year 1428/1429
(2007/2008)

COURSE SDS 431

Clinical Fixed Prosthodontics

4 Credit Hours

- One (1) Credit Hour: One (1) hour lecture weekly for one semester
- One (1) Credit Hour: Two and one-half (2½) hour lab weekly for one semester
- Two (2) Credit Hours: Three (3) hour clinical weekly for two semesters

Sequence

SDS 431 Course is the first clinical course in fixed Prosthodontics taught in the fourth year.

Pre-requisite: SDS 331 Course

Purpose

1. The course serves as the transitional phase from the preclinical to the clinical environment.
2. It provides a framework for the student to negotiate the difficult preclinical-to-clinical divide in a measured and controlled way, reinforcing concepts learned in SDS 331.
3. The clinical phase seeks to equip the student with the fundamental skills for sound clinical Fixed Prosthodontics practice through the comprehensive management of a minimum of two selected FP cases (as a guide, the total number of units expected to be completed in these cases is 6).
4. The concurrent laboratory session in the first semester facilitates the student's understanding of, and familiarity with, laboratory procedures, and the mutual interdependence between technical and clinical quality.

Educational and practical objectives

Being the intermediate FP (Fixed Prosthodontic) course, emphasis will be placed on:

1. Providing the student with the optional knowledge and skills for a successful introduction to clinical FP.
2. Developing the student's clinical and technical psychomotor skills to a defined level prior to actual patient care.
3. Reinforcing the mutual interdependence of high-quality clinical and technical activities for the attainment of precise and predictable clinical outcomes.
4. Developing the student's knowledge base, both didactically and clinically, with a view to refining the student's approach to patient care.
5. Awareness of the cost-benefit equation in FP therapy, and the patient's right to make an informed choice.

Clinical requirements

1. The student is required to complete the treatment of a minimum of Two FP cases of a relatively simple nature.
2. For the purpose of this course, treatment means the following:
 - a. Detailed and systematic documentation of clinical findings, including full detailed charting, accurate mounted study casts, 20 CMS (where necessary), and so on.
 - b. Hand-written or typed account of all findings, treatment options, relative prognosis and treatment sequence.
 - c. Meticulous execution of clinical procedures.
3. It is important that each student be exposed to a range of common FP procedures. If this is not achievable by himself/herself, then observing a colleague is the minimum requirement.
4. Procedures that should be satisfactorily completed are: Single metal-ceramic and / or metal crown, 3 – unit FPD and post / core restorations of indirect / direct types. Procedures that may be undertaken under the proper conditions are: Anterior veneers, resin-bonded FPD, or others as determined by the instructor.
5. Clinical activities will be recorded on a weekly basis.

Evaluation

In order to receive a passing grade for the course, the student must pass each of the didactic and clinical/laboratory components separately.

1. Didactic

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| a. Mid-term written examination including unannounced quizzes | 15% |
| b. Final written examination | 20% |
| Total | 35% |

2. Clinical/laboratory

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| a. Laboratory exercises including the preclinical test | 15% |
| b. "In-clinic" continuous clinical assessment including Case presentation | 30% |
| c. Final clinical examination | 20% |
| Total | 65% |

Students are reminded that all clinical/laboratory evaluations include the student's attitude to learning, professionalism, cleanliness, and purposefulness in the working environment.

General Reference Book:

Shillingburg HT, Hobo S, Whitsett LD, Jacobi R, Brackett SE. Fundamentals of Fixed Prosthodontics, ed 3. Chicago: Quintessence Publishing Co, 1997.

Supplementary Reference:

Rosenstiel SF, Land MF, & Fujimoto J. Contemporary Fixed Prosthodontics, 2nd ed. The CV Mosby, 1995.

SDS 431 Lecture Outline

Course Director : **Dr. Sharifa Al-Shehri (Females)**

Lecturer Schedule : (MUC) **Wednesday, 1:00 – 2:00 PM, Room 202**

| Date | Lecture Topics | Lecturers |
|----------------------------|---|------------------|
| 12/9/2007 | <p>1. <u>Introduction and orientation</u> (Reference: SDS 431 and SDS 331 course outlines)</p> <ul style="list-style-type: none"> • Overview of SDS 431 course objectives and content. • Review of knowledge and skills gained to date (with special reference to course SDS 331). • Course continuous assessment and clinical examination. | Dr. S. Al-Shehri |
| 19/9/2007 | <p>2. <u>The dynamics of treatment planning and treatment Sequences.</u> (References: Kay and Nuttall. <u>Clinical decision making – Part I. Brit. Dent J 1995, 178:76 – 78; Shillingburg p. 73 – 93.</u></p> <ul style="list-style-type: none"> • Principles of clinical decision making • Principles of observation and identifying problems • Making a diagnosis • Importance of prognosis • Treatment phases • Design of the prosthesis | Dr. S. Al-Shehri |
| 26/09/2007 | <p>3. <u>Occlusal examination (mohl, Zarb, Carlsson Rugh. A textbook of occlusion. Chicago: Quintessence Publishing Co., 1988. p. 129 – 141; 185 – 198)</u></p> <ul style="list-style-type: none"> • Review of mandibular movements, including border and functional movements • Clinical significance of tooth and joint morphology • Review of articulators and study casts • Examination of the occlusion; clinical signs and symptoms, radiographic signs, occlusal contacts. | Dr. S. Al-Juhani |
| 03/10/2007 | <p>4. <u>Review of various tooth preparation, including the extensively damaged vital tooth, the RPD abutment, etc. (Shillingburg pp. 139 – 154; 181 – 188; 194 – 209).</u></p> <ul style="list-style-type: none"> • Methods of build-up for vital/non-vital teeth • Full metal crown • Metal ceramic crown | Dr. K. AL Ali |
| 03/10/2007to 20/10/2007 | <u>RAMADAN VACATION</u> | |

| Date | Lecture Topics | Lecturers |
|---------------------------|---|------------------|
| 24/10/2007 | 5. <u>The diagnostic wax-up and provisional restorations</u> (Shillingburg p. 225 – 256; Rosenstiel p. 163 – 165). <ul style="list-style-type: none"> • Applications of templates in diagnosis and treatment • Template construction techniques • Review of provisional restoration fabrication techniques | Dr .A .AL-Baker |
| 31/10/2007 | 6. <u>Managing abnormal tooth positions</u> (Shillingburg p. 95 – 102; 124 – 126; 189 – 193; 211 – 214; 530 – 533). <ul style="list-style-type: none"> • Managing space deficit/excesses • Managing supra-eruptions • Tilted abutments • Non-rigid connectors • Managing short clinical crowns Preparations for periodontally compromised teeth | Dr. W. Sadiq |
| 07/11/2007 | 7. <u>Tissue management and definitive impressions</u> (Shillingburg 6p. 257 – 279) <ul style="list-style-type: none"> • Fluid control • Finish line exposure • Types of impression materials • Impression techniques | Dr. S. Al-Shehri |
| 14/11/2007 (TENTATIVE) | 8. (Mid – Term) Written Examination | |
| 21/11/2007 | 9. <u>All Ceramic Restorations</u> (Anusavice, Science of Dental Materials, 10 th ed. p. 608 – 617). <ul style="list-style-type: none"> • Aluminous core porcelain • Drawback of previous system • Injection-molded glass-ceramic • Castable glass ceramic • Glass-infiltrated alumina-core ceramic • CAD-CAM ceramics | Dr. A. AL-Baker |

| Date | Lecture Topics | Lecturers |
|--------------------------------|--|------------------|
| 28/11/2007 | <p>10. <u>Developments in esthetics in prosthodontics</u> (Shillingburg p.433 – 436; 441 – 451; 472 – 481).</p> <ul style="list-style-type: none"> • Porcelain margins with metal ceramics • High strength ceramics • All ceramic crowns • Porcelain veneers | Dr. A. Al-Farraj |
| 05/12/2007 | <p>11. <u>Esthetics and Shade considerations</u> (Shillingburg p. 419 – 431).</p> <ul style="list-style-type: none"> • Appearance zone • Light and color • Description of light • Shade selection sequence | Dr. A. Al-Farraj |
| 12/12/2007 | <p>12. <u>The resin bonded FPD</u> (Shillingburg p. 537 – 561)</p> <ul style="list-style-type: none"> • Historical background • Indications • Metal framework • Principles of tooth preparation • Laboratory aspects • cementation | Dr. S. Al-Shehri |
| 12/12/2007 TO 29/12/2007 | HADJ HOLIDAY | |
| 02/01/2008 | <p>13. <u>Luting cements and delivering the final restoration</u> (Shillingburg p. 385 – 415).</p> <ul style="list-style-type: none"> • Provisional cementation • Definitive cementation • Types of permanent cements • Cementation of metal based crowns • Cementation of all ceramic veneers and inlays | Dr. S. Al-Shehri |

| Date | Lecture Topics | Lecturers |
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| 09/01/2008 | 14. <u>Prosthodontic failures, prevention and management (Hamerle CHF. Success and failure bridgework. Period 2000 1994, 4:41 – 51).</u> | Dr. R. Akeel |
| 16/01/2008 (F) | 15. <u>Recall examination procedures (Rosenstiel, Land, Fujimoto, Contemporary fixed prosthodontics. St. Louis: Mosby, 1995 p. 782 – 817).</u> <ul style="list-style-type: none"> • Post-cementation appointments • Periodic recall system • Continuity of treatment • Criteria of evaluation during recall | Dr. S. Al-Shehri |
| 23/01/2008 | 16. <u>Review Session</u> | Dr .S .AL- Shehri |
| 30/01/08 TENTATIVE | 17. <u>FINAL EXAMINATION.</u> | |

Clinical and Laboratory sessions

Semester I

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| Week 1 | Clinic 10/9/2007 | Small group demonstrations by instructors on selected, screened patients and/or casts, of Examination, data gathering, diagnosis and treatment plan development. <u>Note:</u> Students are asked to take notes of discussed findings to fill the examination, diagnosis, and treatment plan form (see attached form) and use these as a guide at the following sessions. |
| | Laboratory 12/9/2007 | Obtain dentoform and equilibrate. Make silicon butty index to make ready for next week's exam Set up 4 – 6 variously damaged anterior and posterior extracted teeth (including endodontically treated teeth) in acrylic blocks. Start excavation and/or preparation for build-ups by appropriate means as a precursor to subsequent preparation for extra coronal restoration. |
| Week 2 | Clinic: 17/9/2007 | First individual patient allocation session for each Student. Examination and data collection. <u>Note:</u> The case should preferably be a single posterior unit, or single anterior unit, or simple posterior FPD (in This order). |
| | Laboratory: 19/9/2007 | Examination on 3 units FPD tooth preparation. <u>Note:</u> This exercise is graded and will form part of the lab grade. |
| Week 3 | Clinic: 24/9/2007 | Continue with case work-up, including impressions for cast, etc. |
| | Laboratory: 26/9/2007 | Continue with week 1 exercise. Then prepare previously restored teeth for various cast restoration design. <u>Note:</u> The purpose of these “restore-and-prepare” exercises is to reinforce the importance of learning to visualize what the quality and integrity of the base/foundation is: and to understand how axial reduction alters the stability of such foundations |

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| Week 4 | Clinic: 01/10/2007 | Continue with case work-up, including impressions for cast, etc. |
| | Laboratory: 03/10/2007 | Examination on the fabrication of a three-unit provisional FPD. <u>Note:</u> This exercise is graded and will form part of the lab grade. |
| Week's beginning 22/10/2007 to 16/01/2008 | | Clinical and Laboratory work for assigned patient continue. Free-time for assignment. <u>Note:</u> New cases are taken only if satisfactory progress is being made in term of the student's development of his/ her skills. Such progress will need to be shown for the student to progress to more difficult clinical cases in the following semester. |
| Last 6 weeks 5/12/2007 To 23/1/2008 | Lab Session | Cases presentation each group presents their cases to the class (in lecture Room). |

Semester 2

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| Weeks beginning 17 Feb. – 6 June 2007 | Clinic and Laboratory work continue (subject to satisfactory demonstration of ability in the previous semester). |
| Week 5 (beginning 17 March 2007) | <p>Students are reminded that from week 5 the final clinical examination can begin. This means that particular case needs to be selected and approved by the Course Director well ahead of that time.</p> <p><u>Clinical Examination:</u> Each student performs a single crown preparation, provisionalization and impression in a patient, which is graded according to defined standards by your clinical instructor, and by the Course Director (if necessary).</p> |
| <p>(Note: If it is not possible to do the exam on a single vital tooth, an abutment for an FPD or an endodontically treated tooth may be used; however, in these cases different grading procedures will be used which are likely to be the student's disadvantage).</p> | |

Check list for required papers by the end of the 2nd semester:

- 1. Examination diagnosis and treatment plan form.**
- 2. In clinic weekly continuous clinical assessment form.**
- 3. Laboratory weekly continuous assessment form.**
- 4. Final clinical examination forms for:**
 - A. preparation of a single crown.**
 - B. provisional restoration.**
 - C. final impression.**

Note: all papers should be signed by respective instructor.