

**PERIODONTOLOGY PROGRAM SYLLABI**

**BUIDRE**

**2008-2009**

## **PE 801: Histology/Embryology: Clinical Relevance in Diagnosis and Therapy of Periodontal Disease**

**Course Instructor:** Dr. Haneen Bokhadhoor

**Office Hours:** Sunday – Thursday 9:00 am to 4:00 pm

**Credit Hours:** 0.5

**Prerequisites:** Undergraduate level histology, embryology, molecular biology and physiology plus basic knowledge of periodontal disease and surgical techniques.

**Co-Requisites:** None

**Course Description:** Knowledge of the microscopic architecture, molecular biology and physiology of oral tissues is the basis for understanding the effects of disease and their treatment.

### **Intended Learning Outcome:**

- At the end of these sessions the students should think of disease in term of microscopic anatomy and physiology.
- Treatment options will be analyzed in terms of anatomic limits and flexibility of tissue components.
- The physical nature and limits of tissue will be stressed as an important factor in reconstruction of missing parts.
- Consideration of the internal architecture.
- Evaluation of treatment options and new proposed treatments should be assessed based on biologic reality not wishful thinking.
- Evaluate healing potential of tissue components based on embryologic derivation.

**Course Topics and Content:** Students will be divided into teams for the first three sessions: each team will have assigned embryologic/histological areas of reporting. This will be followed by 2-3 sessions with instructor using clinical situations to apply review materials. Emphasis is on Socratic dialogue prompting students to arrive at answers through the process.

**Assignments and Due Dates:** Teams of students will be assigned relevant areas of histology and or embryology to discuss

**Methods and Dates of Student Evaluations:** Students will be evaluated at the end of the course on the content and quality of their presentation and on class participation.

**Teaching and Learning Methodologies:** This is a seminar course with student and instructor participation.

## **Course Text, Recommended Reading, Material, and Resources:**

- Ten Cate's Oral Histology is the basic reference. Other texts of histology, embryology, physiology, or Internet sources can be utilized in preparation.
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- Materials may be presented in printed, power point or chalkboard

## **PE 802: Periodontology II**

**Course Instructor:** Dr. Haneen Bokhadhoor

**Office Hours:** Sunday – Thursday 9:00-4:00

**Credit Hours:** 1

**Prerequisites:** Successful completion of PE 801: Histology/Embryology: Clinical Relevance in Diagnosis and Therapy of Periodontal Disease

**Co-requisites:** None

**Course Description:** This course focuses on periodontal microsurgery, periodontally accelerated osteogenic orthodontics and alveolar distraction osteogenesis.

**Intended Learning Outcomes:** Students will understand how the healing mechanism of the various periodontal tissues affects the outcome of surgical and non-surgical procedures.

### **Course Topics and Content:**

Embryo: Ectoderm  
Mesoderm  
Endoderm  
Histology: Epithelium  
Connective Tissue  
Blood Vascular  
Neurologic  
Cell Biology – General Concepts  
Cytoskeleton

Surgical Application: Histology/Embryo

**Assignments and Due Dates:** There are no assignments other than mandatory class attendance and participation.

**Methods and Dates of Student Evaluation:** Students are evaluated by class participation.

**Teaching and Learning Methodologies:** Lecture and PowerPoint presentations.

### **Course Texts, Recommended Reading, Material and Resources:**

Ten Gate's Oral Histology, 6th ed., Antonio Nanci

## **PE 808, 809, 810: Seminar: Treatment Planning in Periodontics**

<b>Course Instructor:</b>	Dr. Haneen Bokhadhoor
<b>Office Hours:</b>	Sunday – Thursday 9:00 am to 4:00 pm
<b>Credit Hours:</b>	2
<b>Prerequisites:</b>	This course assumes that students will have familiarity with English, and basic principles of oral and written presentation.
<b>Co-Requisites:</b>	None

### **Course Description:**

Purpose: This departmental course is intended to facilitate students' understanding of the clinical decision-making processes utilized primarily within their specialty. The discussion of the knowledge and skills germane to each clinical case is intended to complement individualized mentoring that students receive from faculty in the clinic. Discussion of related concepts from associated specialties is expected, especially to foster productive interactions in the multidisciplinary treatment planning of advanced cases. Enrollment in this course is mandatory for all students enrolled in the Certificate of Advanced Graduate Studies (CAGS) program in Periodontology. Postgraduate students from other disciplines are welcome, with permission of the Course Director.

Rationale: The course requires each enrolled student to present >1 clinical case during the year. Preparation and presentation of an advanced case provides for review and discussion of fundamental concepts in postdoctoral periodontology. This serves to reinforce and expand upon the components of diagnosis, treatment planning, treatment, and outcomes assessment important in clinical care. The course promotes students' discussion of their rationale for proposed treatments, using relevant literature citations. The course also provides practical instruction in case documentation and presentation skills. The case requirements and format of presentation are described below.

Course Policies: Appropriate conduct is requested and students are expected to adhere to accepted standards of professional and social courtesy. This includes prompt arrival, minimal disruption by pagers and cellular phones, and respectful behavior. Failure to comply with this policy may result in dismissal from class, notification of the Program coordinator, and further disciplinary action.

Because this is a presentation and discussion course, it should be understood that cases may be returned to students for revision and second presentation. Students may preview with the course director and/or associated faculty all cases before formal presentation. All cases will be made available on the course web site; therefore, cases and any other assignments are due at the beginning of class on the dates specified.

With the exception of “open sessions” due to other planned activities, or school and religious holidays that may occur on class days, attendance is mandatory. It is recognized that students occasionally may have professional and personal obligations that conflict with scheduled class time. Nonetheless, as a matter of fairness for fellow students, chronically absent or late students will be subject to the disciplinary actions described above.

Students who receive an unsatisfactory final grade (D or F) for this course will be referred to the Program Director for determination of an appropriate plan for remediation. The plan for remediation will be developed on an individual basis for each student, taking into account the specific course deficiencies, aptitudes of the student, and relevant extenuating circumstances. The plan may include repetition of the course, or portions of the course, with or without individualized tutoring. It should be understood that unresolved deficiencies may be sufficient reason for termination from the CAGS program.

Unforeseeable issues or concerns pertaining to this course that may arise will be solved as equitably as possible. However, the course director reserves the privilege of being the final arbiter in such instances. This includes exceptions to the above policies that may be made in rare instances, at the discretion of the course director.

### **Intended Learning Outcome:**

The goal of this course is promote students’ ability to function independently as providers of advanced periodontal care. After successful completion of this course the students will:

- A. Be able to present an organized oral presentation of a clinical case. In doing so, students should demonstrate the ability to evaluate and treatment plan an advanced case.
- B. Be able to support their presented cases by appropriate responses to questions, including relevant literature.
- C. Be able to co-moderate, in conjunction with faculty, discussion among the course participants.
- D. Have participated meaningfully in discussion throughout the entire course duration. This is a critically important aspect of this course.

### **Course Topics and Content:**

#### Case Presentation:

1. Case Selection: Cases must be of sufficient complexity to test the diagnostic and therapeutic abilities of advanced students in periodontology. Given that advanced students in periodontology are members of a multidisciplinary team, each case selected for presentation must not only have advanced periodontal but also advanced prosthetic, endodontic, orthodontic or other applicable considerations.

Students must inform the Course Director when case selection criteria cannot be met.

## 2. Format of Presentation

*a. General Guidelines:* The format for presentations have been adapted from guidelines established by both the American periodontology and prosthodontics Boards. Students should familiarize themselves with the requirements of their respective specialty Board Examinations.

*b. Written Case Report:* When they present, students must provide copies of a concise, typed case summary. Students are encouraged to use headings recommended by their respective American specialty Boards but are free to organize the report as they deem most appropriate.

Written case reports should include, but not necessarily be limited to, the following:

- Chief Complaint
- Histories (medical, dental, social and financial)
- Extraoral Examination (including TMJ)
- Intraoral Examinations (including dental, periodontal, static occlusion and functional occlusion)
- Radiographic Examination
- Esthetic Evaluation, if needed
- Relevant Charting (teeth, restorations and periodontal)
- Diagnosis, Prognosis and Etiology
- Problem List
- Treatment Plans (including drawings of prosthetic treatment)
- Summary of Treatment Already Provided
- Current Disposition of the Case

*c. Diagnostic Casts:* Diagnostic casts are not required. However, if available, pre-treatment articulated casts mounted in centric relation occlusion would facilitate interdisciplinary treatment planning of advanced cases.

*d. Oral Presentation:* Students will present the selected case verbally and visually without interruption (maximum of 45 minutes). Each of the items listed in the written case report (histories, clinical exams, etc.) should be included, using projected materials as needed (i.e., Power Point color clinical slides and radiographs). Students are free to use the audio-visual aids that they deem appropriate, including LCD projector, overhead projector and/or blackboard; please note that carousel slide projectors have been/will be phased out. Students are requested to minimize the number of title/heading slides. The verbal presentation can be given extemporaneously, from notes, or read from a prepared text.

Oral case presentations should generally follow, but not necessarily be limited to, the following sequence:

- Brief Overview of the Case (i.e., why was the case selected?)
- Chief Complaint
- Histories
- Various Clinical Findings

- Radiographic Findings
- Diagnosis, Prognosis and Etiology
- Problem List (very important for effective discussion; see below)
- Goals of Treatment
- Treatment Plans
- Treatment Rendered (students are encouraged to show any treatment in progress, including advanced diagnostic, clinical treatment or laboratory techniques applicable to the case)
- Case Disposition and Evaluation of Results
- Presenter opens the discussion by briefly reviewing the important features of the case (i.e., problem list) and then asking questions of students in the audience

It is essential that all presenters utilize appropriate literature references to support their cases.

It is highly recommended that students coordinate clinical slides with periapical radiographs. This can be accomplished by alternating clinical and radiographic views of the particular tooth or sextant, or by side-by-side projection of clinical and radiographic views of the particular tooth or sextant.

Radiographic findings can be projected using scanned duplicates. The full-mouth series of periapical views and bitewings must be presented. Panoramic, CT or other radiographic views can also be presented as deemed appropriate by the presenting student. When appropriate, radiographic information can be combined to expedite the presentation.

Extraoral findings should be presented using color slides of front face view (with and without smiling) and profile view. Please block out the patient's eyes and remove any identifying information (HIPAA issue).

Intraoral findings must be presented using color slides of all relevant areas. Views can be presented either by individual tooth or by sextant and must follow, but not necessarily be limited to, the following sequence:

- Anterior Facial
- Right Posterior Facial
- Left Posterior Facial
- Maxillary Occlusal
- Mandibular Occlusal
- Maxillary Right Posterior (facial and/or oral aspect with corresponding periapical radiograph)
- Maxillary Anterior (facial and/or oral aspect with corresponding periapical radiograph)
- Maxillary Left Posterior (facial and/or oral aspect with corresponding periapical radiograph)
- Mandibular Left Posterior (facial and/or oral aspect with corresponding periapical radiograph)
- Mandibular Anterior (facial and/or oral aspect with corresponding

- periapical radiograph)
- Mandibular Right Posterior (facial and/or oral aspect with corresponding periapical radiograph)

Presentation of a Clinical Topic within the Case Presentation: Although not required, presenters may introduce and discuss a topic relevant to the case. Typically, this is to be a brief “mini-lecture” ( $\leq 10$  min.) which develops an interesting aspect of the case. Presenters are free to introduce such material at any point during their case presentations that they deem appropriate. However, students should keep in mind that, for this course, the mini-lectures support the case rather than vice versa.

Question/Answer & Discussion (Audience Participation): For the remaining class time after completing the formal presentation, the presenter will answer questions and co-moderate discussion among the student participants. To facilitate discussion, presenters are required to briefly summarize the key problem areas and main clinical features of the case at the conclusion of their presentation. Presenters should identify what they found to be the most interesting and problematic conditions of the case. Presenters should develop a list of potential questions raised by the case, and should come prepared both to ask and answer those key questions.

Presenters should be thoroughly familiar with all aspects of their cases and should be prepared to discuss them in their entirety. Presenters will be questioned by faculty and students to determine their knowledge of the case, alternate choices of therapy, recognition and management of other clinical conditions, hypothetical situations and general understanding of their specialty.

Similarly, students in the audience should come prepared to answer questions posed by the presenter and faculty (i.e., co-moderators) to determine their understanding of the case, alternate choices of therapy, recognition and management of other clinical conditions, hypothetical situations and general understanding of their specialty.

These guidelines for the open discussion are intended to emphasize, to all the enrolled students, the interactive format of this course. This course has been designed specifically to be "student driven," thereby maximizing student participation. Faculty will ensure that discussions are conducted in an instructive and professional manner.

**Assignments and Due Dates:** A draft schedule is posted separately on the course web site.

### **Methods and Dates of Student Evaluations:**

Case Presentation: Students will be evaluated critically for performance in the following two general areas, using the respective component criteria:

- Formal Presentation of the Case
  - Case Selection
  - Organization & Clarity of Presentation
  - Documentation
  - Diagnosis, Treatment Planning & Goals of Treatment
  - Treatment & Results (if available)
  - Justifications Based on Appropriate Literature

- Open Discussion (i.e., Questions & Answers)
  - Ability to Communicate Effectively
  - Understanding of the Case Presented
  - General Clinical Knowledge
  - Critical Thinking (i.e., applies clinical knowledge to solve problems)
  - Understanding of the Concepts from Different Specialties Applicable to the Case Presented
  - Ability to Co-moderate an Effective Discussion

Class Participation: Students will be evaluated critically for consistent and productive interactions during class discussions.

## **Grading**

Case Presentation Grade: Grades for each student’s case presentation will be based on written evaluations of the above criteria that will be completed by both faculty and students. A sample evaluation sheet is attached below. The Course Director will take into account the possibility that grades submitted by student peers may exhibit variability due to lack of calibration. Outlier grades will be handled as deemed most appropriate; typically, the highest and lowest individual scores will be dropped before calculating a mean score for each case presentation. Furthermore, students who are asked to repeat an unsatisfactory presentation will receive the benefit of the higher grade received for that presentation. In the interest of fairness, the Course Director will also give due consideration for students whose native language is not English. The mean scores from the case presentations will be used to determine a letter grade for each case presentation, according to the following scale:

<u>Points</u>	<u>Grade</u>
90-100	A
80-89	A-
60-79	B
40-59	C
20-39	D

It should be noted that this scale is for the case presentation only; the final grade for the course also includes scores from class participation, as described below. It should also be noted that the number and type of assigned case presentations may vary from semester to semester, with each assignment contributing proportionally to one cumulative score for this component.

Class Participation Grade: Grades will also be based on each student’s participation in the in-class discussions. The Course Director will note each student’s attendance and active participation in case discussions. It is expected that each student will contribute meaningfully, with thoughtful and reasoned input. Students will be discouraged from monopolizing discussions and/or disrupting the flow of discussions. Conversely, students will be encouraged to contribute regardless of innate shyness or timidity. The Course Director will rate each student’s participation as satisfactory, unsatisfactory or very good. These ratings will be used to

determine a numerical score and grade for class participation, according to the following scale.

<u>Ratings</u>	<u>Points</u>	<u>Grade</u>
Very Good	20	A
Satisfactory	10	C
Unsatisfactory	0	F

Final Course Grade: Grading for this course is based on a criterion-referenced system. Final grades will be based on a maximum of 120 points, weighted as follows:

<u>Points</u>	<u>Activity</u>
100	Case presentation & open discussion
<u>20</u>	Overall participation when not presenting
120	Total

The Course Director will determine the final grade for each student enrolled in the course. Final letter grades for the course will be assigned based on the total number of points received by each student. In general, scores are not negotiable and will not be changed once they have been assigned. However, exceptions may be made in clear cases of error. Final grades will be calculated according to the following scale:

<u>Total Points Obtained</u>	<u>Final Grade</u>
103-120	A+
92-102	A
86- 91	A-
80- 85	B+
74- 79	B
70- 73	B-
60- 69	C+
50- 59	C
40- 49	C-
30-39	D
<30	F

**Teaching and Learning Methodologies:** Pertinent literature reference from journals used in previous seminars is mandatory.

**Course Text, Recommended Reading, Material, and Resources:** There is no required text. Students will be responsible for in-class presentations and discussion, as well as for course notes or other material otherwise made accessible through the course web site.

## **PE816: Periodontal Literature Review**

**Course Instructor:** Dr. Haneen Bokhadhoor

**Office Hours:** Sunday – Thursday 9:00 am to 4:00 pm

**Credit Hours:** 4

**Prerequisites:** Participants must be Dental School graduates. Students entering this course must be enrolled in the postdoctoral program in Periodontology and Oral Biology at BUIDRE. Postdoctoral students in other specialty programs wishing to engage in the Seminars must have their department chairperson's approval and the permission of the course director.

**Co-Requisites:** None

**Course Description:** The primary purpose of the Periodontology Literature Review seminars is to provide a comprehensive review and analysis of classical and current literature in Periodontology and allied disciplines, important for a full understanding of the basis for the diagnosis, prevention and therapy of oral and periodontal disease. Additionally, the readings and discussion encourage the use of library and literature facilities, promote a complete awareness of the interrelationships of the biomedical sciences with the discipline of periodontology, permit critical reviews of basic and preclinical research, and foster the employment of the essential features of the scientific and experimental method in the diagnosis and treatment of patients. The seminars aim to inspire a sense of inquiry, an appreciation for biologic and clinical variables, and an innate desire to evaluate evidence methodically, scientifically and realistically. Without such an approach, patients could suffer from an application of blind dogma and arbitrary rule-of-thumb. Without the application of analytical, scientific and experimental methods, periodontology would become traditional, since it cannot move ahead on the basis of observational experience. In addition, this seminar will prepare students to defend treatment plans using the literature as a rationale for therapy.

**Intended Learning Outcome:** At the completion of the course, the graduate students in Periodontology are expected to:

1. Fully comprehend the biology of the periodontium in health.
2. Gingival sulcus.
3. Epithelial attachment.
4. Gingival fluid in health and as reflection of disease.
5. Periodontal ultrastructure.
6. Blood supply and lymphatics of the periodontium; their variations with disease and injury.
7. Neural supply of the periodontium.
8. The attachment apparatus:
  - Biology of the cementum
  - Biology of the periodontal ligament

- Alveolar and supporting bone
  - Mineralization phenomena of hard tissues
9. Tooth morphology and its effects on periodontal diagnosis, prognosis and treatment, especially furcation anatomy.
  10. Understand the role of microorganisms in the causation and continuation of the inflammatory periodontal lesion:
    - Normal and periodontal flora
    - Bacterial plaque
    - Microbiology of periodontal disease
    - Calculus formation, including its mineralization
    - Bacterial products and their biologic effects/pathogenic potential
  11. Recognize the variety and variability of effect of various host defenses to disease:
    - Humoral immunity
    - Cellular immunity
    - Phagocytic defenses
    - Alteration of the immune response in different disease entities, e.g. AIDS, Rapidly progressive periodontitis, Juvenile Periodontitis, etc. and its relation to the pathogenesis of periodontal disease
    - Local “hormones”, as the prostaglandin’s
  12. Be capable of documenting fully the nature of periodontal disease as to
    - Epidemiology
    - Pathogenesis
    - Clinical and pathologic manifestations
    - Influences of initial therapy and preventive dentistry
    - Effects of chemotherapy, such as antibiotics
    - Natural history and epidemiology, including periodontal disease indices
  13. Be able to ascertain the influences of systemic disorders and diseases on the periodontium and periodontal therapeutics, e.g.
    - Metabolic diseases such as diabetes mellitus
    - Endocrine disorders, as estrogen-progesterone, stress
    - Hematologic Dyscrasias, e.g. leukemia, neutropenias, chemotherapy of malignancy
    - Nutritional deprivation, e.g. ascorbic acid deficiency
    - Cardiovascular disease
  14. Understand the healing potential of the PDL
    - Nutritional deprivation, e.g. ascorbic acid deficiency
    - Cardiovascular disease
    - New attachment versus reattachment and mechanisms involved in cell repopulation of root surface
    - Guided tissue regeneration using resorbable membranes, Gore-Tex.
  15. Be aware of the variances in periodontal disease distribution, intensity, chronology, etc. in children and adolescents
    - The childhood periodontium
    - Rapidly progressive periodontitis

- Juvenile periodontitis
  - Acute ulcerative necrotizing gingivitis
16. Develop well-versed rationales/defenses for their clinical treatment plans based upon the literature discussed in the seminar.
  17. Be able to constructively criticize/discuss cases in Grand Rounds/Treatment Planning Seminars based upon the literature.

The Periodontal Seminars will be correlated with the courses in Periodontology and Applied Oral Biology, Oral Microbiology, Oral Biology, Oral Immunology, and other pertinent disciplines.

## **Course Topics and Content:**

### Seminar Topics

#### 1. Diagnosis of Periodontal Disease:

- Probing
- Temperature
- X-Rays
- GCF Tests
- DNA probes
- Disease Activity

#### 2. Etiology of Periodontal Disease

- Primary Factors
- Plaque /Bacteria Host-Parasite Interaction
- Contributing Factors
- Systemic
- Diabetes
- Hormonal changes
- Immune deficiency
- Pregnancy/Contraception
- Smoking
- Others (blood dyscrasias, medications, allergies)
- Root Anatomy
- CEP
- Grooves
- Iatrogenic Dentistry
- Overhang Margins
- Occlusion
- Primary Trauma
- Secondary Trauma
- Local Factors
- Calculus
- Perio-Endo Lesions
- Food Impaction

#### 3. Classification

- Chronic Adult Periodontitis
- Early-onset
- Pre-puberty
- LJP/Periodontosis
- RPP
- Refractory Perio
- ANUG
- Gingivitis
- Heretic Gingivostomatitis

#### 4. Epidemiology

- Plaque Index
- G.I.
- Natural history of progression (untreated)

#### 5. Initial Prep

- Root surface alteration
- SRP
- Effectiveness of SRP
- Closed v. Open
- Furcation v. non-furcation
- Hand v. Ultrasonic
- Oral Hygiene - Effectiveness of Plaque removal
- Toothbrush
- Floss
- Proxibrush
- Electric toothbrushes
- Mouthwashes
- Peridex
- Listerine
- Sanguinarine
- H<sub>2</sub>O<sub>2</sub>
- Plax
- Long term studies
- Michigan group
- Sweden group
- Reevaluation/Post IP
- Recall/Maintenance

#### 6. Splinting

- Rationale
- Intra coronal
- Extracoronary
- Mobility: indexes & what does it mean?
- Furcation
- Long term studies
- Root resection

- Regeneration
- Classification
- Perio disease effect on adjacent teeth
- Therapy
- ORS
- Gingivectomy
- Flap debridement
- ENAP
- MWF
- Labial Curtaine
- Mucogingival Sx
- FGG
- Lat pect
- CPF
- SCT
- Bone Grafts
- Allografts
- Autografts
- Alloplasts
- Root Conditioning
- Citric Acid
- Fibronectin
- Laminin
- Tetracycline
- Growth Factors
- CLP/Biologic Width
- GTR
- non-resorbable
- resorbable
- Flap Design

#### 7. Antibiotics

- Tetracycline
- Penicillin
- Metronidazole
- Clindamycin
- Systemic/local delivery
- Ortho-Perio: tooth movement/presence of inflammation

#### 8. Dentin Hypersensitivity

#### 9. Implants/Osseointegration

- Rationale
- Immediate/Delayed
- Ridge Augmentation
- Sinus Lifts
- HA/Titanium

- Bone Physiology-Robertson, Gauetto
10. Wound Healing After
    - GV
    - Lateral flap
    - FGG
    - ORS
    - Implants
  11. Root Caries
  12. Surgical v. Non-surgical Therapy
  13. Fluoride
  14. Nutrition
  15. Prognosis
  16. SBE prophylaxis
  17. HIV related perio disease
  18. Perio-Prosthesis
  19. Pathogenesis of periodontal disease
  20. Ulcerative lesion

The Periodontal Seminars will be correlated with the courses in Periodontology and Applied Oral Biology, Oral Microbiology, Oral Biology, Oral Immunology, and other pertinent disciplines.

### **Assignments and Due Dates:**

#### Seminar Format

Each graduate student will be responsible for preparing a written, critical abstract of one or more literature references for each seminar. The abstracts routinely provided with articles in the journals do not ordinarily evaluate their references nor critique their own articles and/or investigations and will be unacceptable for meaningful discussion. Each student must type his/her critical abstract on a large (5"x8") index card. This index card should contain:

1. The title of the paper
2. Names of authors
3. Journal, volume, page number and date
4. Objectives
5. Materials and methods
6. Results
7. Conclusions
8. Critical evaluation
9. Student's name

These cards must be handed in to the course director after each session.

The key articles (5 to 15 per session) will be discussed by all members of the seminar. Therefore, it is essential that each student be thoroughly familiar with these articles prior to the seminar.

Literature notebook: A notebook with short summaries for each article must be kept by each

student. All the articles should be listed by topic with each topic taking up no more than one 8 ½ x 11” in page (front and back). This notebook will be checked periodically by the course director and pass/fail grade given.

**Methods and Dates of Student Evaluation:** Method of evaluation is based on student’s attendance, participation and discussion in the seminar. Failure will result in preparation of make-up papers. Two written exams (midterm and final) for which each student will be asked to answer 4 out of 8 essay questions pertaining to the subject covered. These exams will be graded numerically out of 100 points. In addition, several short examinations will be administered following coverage of each unit. The format will be short answer/multiple choice.

Attendance at seminars is mandatory. Poor attendance or lack of preparation for seminars will result in a failing grade.

Course Program Evaluation: Students will be given an evaluation form when taking the final examination.

Attendance at seminars is mandatory. Poor attendance or lack of preparation for seminars will result in a failing grade.

**Teaching and Learning Methodologies:** Instructor-guided seminar format

**Course Text, Recommended Reading, Material, and Resources:** Articles from the pertinent literature will be assigned or researched by the students.

## **PE 823: Periodontal Therapy I**

<b>Course Instructor:</b>	Dr. Haneen Bokhadhoor
<b>Office Hours:</b>	Sunday – Thursday 9:00am to 4:00 pm
<b>Credit Hours:</b>	4
<b>Prerequisites:</b>	D.M.D. or equivalent
<b>Co-Requisites:</b>	None

**Course Description:** The objective of this course is to provide the periodontal students with the necessary didactic and clinical information to familiarize them with the diagnosis and treatment of periodontal conditions in the normal host, compromised host, children and adolescents by the application of current periodontal procedures. Emphasis is placed on the development of comprehensive treatment plan and rationale for therapy.

This course will introduce students to the administrative, clinical and record keeping systems. Successful completion of this course is necessary in order to be allowed to treat patients in the postgraduate periodontology clinic.

### **Intended Learning Outcome:**

On completion of this course the student will be able to:

- establish a general rationale for therapy supported by published data.
- establish a rationale for initial therapy supported by published data.
- establish a rationale for surgical therapy supported by published data.
- analyze the anatomy and histology of the periodontium as it relates to periodontal surgery.
- establish a proper diagnosis of the condition of soft and hard tissues and classify cases as per the A.D.A. classification system.
- make a determination as to the need for and type of treatment that may be necessary.
- differentiate between the need for new attachment, respective or augmentation procedures in the total therapeutic plan.
- understand the need for and importance of initial therapy.
- determine the need for, make a proper selection of, and understand the objectives, advantages, disadvantages, indications, contraindications, rationales, and techniques of the following procedures:
  1. scaling and root planing
  2. surgical curettage
  3. excisional new attachment
  4. modified Widman approach
  5. gingivectomy
  6. mucoperiosteal and partial thickness flaps

7. crown lengthening
  8. gingival autografts
  9. pedicle grafts (various types)
  10. distal wedge operations
  11. resective osseous surgery
  12. regenerative osseous surgery
  13. management of furcations
  14. tissue guided regeneration
  15. implantology: interaction into periodontal/prosthetic treatment
  16. Perio-ortho interactions
  17. Perio-restorative interactions
- Complying with Institute protocol as it relates to the proper treatment of patients; Emergency protocol; proper clinic attire; patient payments and contracts; proper patient record keeping; the treatment of patients with infectious diseases.
  - Gathering and analyzing all pertinent local clinical and systemic data necessary for diagnosis and treatment.
  - Understand the epidemiology of periodontal disease and the basic methods needed for data collection i.e., gingival index, plaque index, bleeding index, probing, etc.
  - Formalizing an adequate periodontal diagnosis
  - Evaluating specific local and systemic etiologic factors.
  - Recognizing and controlling various contributing factors associated with periodontal disease.
  - Understanding and prioritizing the steps necessary for comprehensive planning and sequencing of treatment.
  - Defending their diagnosis and treatment plans with pertinent literature.
  - Performing clinical photography to produce presentation quality slide material.
  - Identifying all instruments required for exam, initial preparation, and surgery.
  - Properly setting up the operatory for treating patients according to proper infection control guidelines.
  - Performing universal precautions when treating patients as required by the Infection Control and Safety Committee of the school.
  - Properly preparing instruments for sterilization.
  - Adequately recording probing depths and knowledge of the clinical significance of this.
  - Identifying the various hand, ultrasonic and air scaling instruments necessary for environmental control.
  - Correctly manipulating these instruments for preparing biologically acceptable root surfaces.
  - Caring for and maintaining the sharpness of these scaling and root planing instruments.
  - Understanding the objective advantage of scaling and root planing.
  - Giving oral hygiene instructions in an individualized fashion.
  - Prescribing the correct chemotherapeutic agent as needed for the situation.
  - Understanding the need for and methods of obtaining good documentation (for case presentations).
  - Understanding how to conduct themselves while in the clinic.
  - Understanding of what is expected of them while attending the program.

## **Course Topics and Content:**

### Course Lectures:

- Anatomy/Histology as related to periodontal surgery
- Diagnosis of Soft and Hard Tissue
- Clinical Photography
- Medical Emergencies
- Periodontal Emergencies
- Pharmacology
- Rationale for Therapy
- Initial Preparation/Scaling and Root Planning
- Periodontal Surgery - Lab & Lecture
- Maintenance
- Non-Surgical Therapy
- Occlusion

**Assignments and Due Dates:** There are no specific assignments. Attendance at lectures, seminars and laboratories is mandatory.

**Methods and Dates of Student Evaluations:** Attendance and class participation evaluated on a Pass/Fail basis. Additionally, there will be 3 quizzes and 1 final exam. Attendance is mandatory.

Students will also be evaluated on their ability to properly perform the following clinical procedures:

- Diagnosis
- Periodontal Probing
- Clinical Photography
- Record Keeping/Documentation
- Scaling & Root Planning

**Teaching and Learning Methodologies:** Lecture/seminar that will be reinforced in clinical exercises.

## **Course Text, Recommended Reading, Material, and Resources:**

### Texts:

- Dibart S & Karima M. Practical Periodontal Plastic Surgery, Blackwell- Wiley 2006
- Dibart S. Practical Advanced Periodontal Surgery. Blackwell-Wiley 2007
- Carranza, Newman: Clinical Periodontology, 8<sup>th</sup> ed. W.B. Saunders. Philadelphia, 1996.
- Cohen, E: Atlas of Cosmetic and Reconstructive Periodontal Surgery, 2<sup>nd</sup> ed. Lea & Febiger. Philadelphia, 1994.
- Lindhe, J: Textbook of Clinical Periodontology. 1<sup>st</sup> ed. Munksgaard. Copenhagen, 1983.
- Genco, Goldman, Cohen: Contemporary Periodontics. C.V. Mosby. St. Louis, 1990.
- Schluger, Yuodelis, Page and Johnson: Periodontal Disease. Lea & Febiger, Philadelphia, 1990.
- Pattison & Pattison: Periodontal Instrumentation: A Clinical Manual, Preston Publishing Co., 1979.

- Boston University Goldman School of Dentistry, Infection Control Manual.
- Medical emergencies in the dental office; Malamed

Other materials:

- Current literature references (Seminar I and II).
- Camera & mirrors/retractors for intraoral photography
- Periodontal instrument kit for diagnosis, initial preparation and surgery.

## **PE 825: Orthomechanotherapy**

<b>Course Instructor:</b>	Dr.Elif Keser
<b>Office Hours:</b>	Sunday – Thursday 9:00am to 4:00 pm
<b>Credit Hours:</b>	2
<b>Prerequisites:</b>	DMD degree or equivalent
<b>Co-Requisites:</b>	None

**Course Description:** The course provides diagnostic and treatment planning skills necessary for management of localized malocclusion and focuses on orthodontics problems that can be managed by the periodontists. It includes a series of lectures and clinical participation.

Purpose of the Course: The purpose of the course is to build self-confidence in diagnosing and treatment planning for orthodontics problems that are multi-disciplinary in nature. Also, to stress orthodontics care appropriate to the generalist restorative clinician and to emphasize the practical consideration of localized tooth movement in preparing the dentition for other phases of dental treatment.

### **Intended Learning Outcome:**

The following are learning objectives of the course:

- Identify orthodontic problems. Demonstrate basic knowledge in diagnosis and sequential planning of treatment
- Discuss the development of orthodontic problems and describe the role of orthodontics in comprehensive dental care
- Apply orthodontics concepts in sequential treatment planning, as well as in design, fabrication and placement of appliances for limited orthodontic treatment in order to resolve localized orthodontic problems
- Differentiate between limited and comprehensive orthodontic treatment in adults. Analyze in indications and contraindications for limited orthodontics treatment
- Discuss with the patient orthodontic treatment possibilities. Compose the appropriate treatment plan coordinate orthodontics with orthodontics with other disciplines of dentistry
- Decide which malocclusion problems are best suited for treatment in general practice: Select those patients with malocclusion requiring the services of a specialist and be proficient in appropriate referral procedures.

### **Course Topics and Content:**

- Orthodontic diagnosis and treatment planning
- Integration of orthodontics into comprehensive patient care
- Application of orthodontics to sequential treatment planning

- Fabrication of appliances for limited orthodontic treatment
- Indications for limited orthodontic treatment
- Presentation of orthodontic diagnosis and treatment options to the patient
- Case selection and referral for orthodontic care

**Assignments and Due Dates:** There are no specific assignments. Attendance and participation in class discussions is mandatory.

**Methods and Dates of Student Evaluations:** Class attendance and participation; one final exam.

**Teaching and Learning Methodologies:** Lectures and class discussion

**Course Text, Recommended Reading, Material, and Resources:**

- W.R. Proffit: Contemporary Orthodontics. Textbook, Mosby, 2000
- A.A. Gianelly: Bidimensional Techniques, Theory and Practice. Textbook, GAC International 2000
- T.M. Graber: Orthodontics. Current Principles and Techniques. Textbook, Elsevier Mosby, 2005
- Lecture notes.

## **PE 829: Periodontal Literature Review II**

**Course Instructor:** Dr. Haneen Bokhadhoor

**Office Hours:** Sunday – Thursday 9:00 am to 4:00 pm

**Credit Hours:** 4

**Prerequisites:** Course enrollees must have completed predoctoral studies in dentistry leading to a DMD, DDS or equivalent degree, and must be officially registered in a recognized CAGS program at the Institute. Students must have sufficient familiarity with English to participate in course activities. Students should have an understanding of basic principles involved in oral presentations.

**Co-Requisites:** None

### **Course Description:**

**Purpose:** This departmental course is intended to provide a forum for in-depth discussion of current literature topics germane to the practice of the art and science of Periodontology. This course is intended to augment previous and concurrent instruction in the Periodontal Literature Review I & II courses (i.e., classic literature review). A student moderator will be assigned for each session. The student moderator will be responsible for summarizing the literature and leading the discussion of the chosen articles. Enrollment in this course is mandatory for all students in the Certificate of Advanced Graduate Studies (CAGS) program in Periodontology. Postgraduate students from other disciplines are welcome, with permission of the Course Director.

**Rationale:** Postdoctoral students gain increasing experience and deeper understanding of the literature as they progress through their program of study. Consequently, it is useful for students to review selected publications of interest. Selection and presentation of current literature allows for discussion of various concepts in postdoctoral periodontology. In particular, this course serves to reinforce and expand upon the concepts presented in other courses and in students' clinical patient care. An important objective of the course is to prepare students for the American Academy of Periodontology (AAP) In-service examinations. The course also provides practical instruction in moderating/teaching a seminar class. The selection requirements for articles and format of presentation are described below.

**Course Policies:** Appropriate conduct is requested and students are expected to adhere to accepted standards of professional and social courtesy. This includes prompt arrival, minimal disruption by pagers and cellular phones, and respectful behavior. Failure to comply with this policy may result in dismissal from class, notification of the Program Director, and further disciplinary action.

Because this is an interactive course, it should be understood that unsatisfactory performance by the student moderator may necessitate a repeat presentation. Students may preview with the Course Director and/or associated faculty all articles before formal presentation.

With the exception of “open sessions” due to other planned activities, or school and religious holidays that may occur on class days, attendance is mandatory. It is recognized that students occasionally may have professional and personal obligations that conflict with scheduled class time. Nonetheless, as a matter of fairness for fellow students, chronically absent or late students will be subject to the disciplinary actions described above.

Students who receive an unsatisfactory final grade (D or F) for this course will be referred to the Program Director for determination of an appropriate plan for remediation. The plan for remediation will be developed on an individual basis for each student, taking into account the specific course deficiencies, aptitudes of the student, and relevant extenuating circumstances. The plan may include repetition of the course, or portions of the course, with or without individualized tutoring. It should be understood that unresolved deficiencies may be sufficient reason for termination from the CAGS program.

Unforeseeable issues or concerns pertaining to this course that may arise will be solved as equitably as possible. However, the course director reserves the privilege of being the final arbiter in such instances. This includes exceptions to the above policies that may be made in rare instances, at the discretion of the course director.

**Intended Learning Outcome:** The goal of this course is to augment and enhance students’ knowledge in areas of instruction previously or concurrently received during their program. After successful completion of this course the student will:

- A. Be able to present an oral summary of a relevant published article.
- B. Be able to evaluate critically the scientific merit of a relevant published article.
- C. Be able to co-moderate, in conjunction with faculty, discussion among the course participants.
- D. Have participated meaningfully in discussion throughout the entire course duration.  
This is a critically important aspect of this course.

**Course Topics and Content:** A draft schedule will be posted separately on the course web site.

**Assignments and Due Dates:**

1. Articles Selection: The list of articles to be discussed and the assigned students is developed by consensus between the students and Course Director. Articles should be selected based on both the specific interest of the individual student and the general interest of the group; however, the articles should have clinical or basic biomedical relevance for advanced students in periodontology. Articles should be recent, published within the past 3-4 years. Older articles are

acceptable if they add to the overall discussion.

Generally, 3-5 articles will be selected for discussion. These articles may have a thematic connection; for example, recent articles from different journals all describing one clinical procedure or concept such as root coverage, bone grafts, risk factors, etc. Alternatively, the articles may have no thematic connection, but are chosen because of their importance, relevance and up-to-datedness. Articles should be selected at least one week in advance, to allow sufficient time for final approval, distribution and reading time.

Students must inform the Course Director when the selection criteria for articles cannot be met.

## 2. Format of Presentation

*a. General Guidelines:* The format for presentations should follow a typical journal club type format. Each article should be discussed individually. Student moderators may review each article in detail themselves, and then ask for input from the other students. Alternatively, student moderators can give a brief overview and then open the paper up for discussion. It is expected that student moderators will call upon various students to describe different portions of the article. It is recognized that students will exhibit different teaching/learning styles. Nonetheless, the desired primary outcome is interactive discussion; this is in contrast to a mere series of article summaries presented by one student, without much input from classmates. The pedagogy is intended to foster productive discussion.

*b. Written Summary:* Although not required, student moderators may choose to provide copies of a concise, typed summary. Students are free to organize the summary as they deem most appropriate.

*c. Formal Oral Presentation:* Although not required, student moderators are free to use the audio-visual aids that they deem appropriate, including LCD projector, overhead projector and/or blackboard; please note that carousel slide projectors have been/will be phased out. Students are requested to minimize the number of title/heading slides. The verbal presentation can be given extemporaneously, from notes, or read from a prepared text.

Open Discussion (Audience Participation): The student moderator will co-moderate discussion among the group. The open discussion is intended to emphasize, to all the enrolled students, the interactive format of this course. This course has been designed specifically to be "student driven," thereby maximizing student participation. Faculty will ensure that discussions are conducted in an instructive and professional manner.

## **Methods and Dates of Student Evaluations:**

Articles Presentation: Students will be evaluated critically for performance in summarizing and presenting the selected papers, and in leading the group discussion.

Class Participation: Students will be evaluated critically for consistent and productive interactions during class discussions.

## Grading

Articles Presentation Grade: The Course Director and associated faculty will grade each student moderator. Grades will be either satisfactory or unsatisfactory (i.e., pass/fail). In the interest of fairness, the Course Director will give due consideration for students whose native language is not English. The mean ratings will be used to determine a letter grade for this component (and a numerical equivalent), according to the following scale:

<u>Ratings</u>	<u>Grade</u>	<u>Points</u>
Satisfactory	A	100
Unsatisfactory	F	50

It should be noted that this scale is for the article presentation only; the final grade for the course also includes scores from class participation, as described below. It should also be noted that the number of assigned sessions to moderate may vary from semester to semester, with each assignment contributing proportionally to one cumulative score for this component.

Class Participation Grade: Grades will also be based on each student's participation in the in-class discussions. The Course Director will note each student's attendance and active participation during discussions. It is expected that each student will contribute meaningfully, with thoughtful and reasoned input. Students will be discouraged from monopolizing discussions and/or disrupting the flow of discussions. Conversely, students will be encouraged to contribute regardless of innate shyness or timidity. The Course Director will rate each student's participation as very good, satisfactory and unsatisfactory. These ratings will be used to determine a letter grade for class participation (and a numerical equivalent), according to the following scale:

<u>Ratings</u>	<u>Grade</u>	<u>Points</u>
Very Good	A	30
Satisfactory	B	15
Unsatisfactory	F	0

Final Course Grade: Grading for this course is based on a criterion-referenced system. Final grades will be based on a maximum of 130 points, weighted as follows:

<u>Points</u>	<u>Activity</u>
100	Article presentation & open discussion
<u>30</u>	Overall participation when not presenting
130	Total

The Course Director will determine the final grade for each student enrolled in the course. Final letter grades for the course will be assigned based on the total number of points received by each student. In general, scores are not negotiable and will not be changed once they have been assigned. However, exceptions may be made in clear cases of error. Final grades will be calculated according to the following scale:

<u>Total Points Obtained</u>	<u>Final Grade</u>
130	A+
115	A
100	B
80	C
65	D
50	F

**Teaching and Learning Methodologies:** This is an instructor-guided, student led seminar course.

**Course Text, Recommended Reading, Material, and Resources:**

There is no required text. Students will be responsible for selecting the articles to be discussed. Students will be responsible for providing electronic versions of articles, including “scanned” copies of printed versions, so that the articles can be made available on the course web site.

## **PE 911, 912, 913 Clinical Periodontology**

**Course Instructor:** Dr. Haneen Bokhadhoor

**Office Hours:** Sunday – Thursday 9:00 am to 4:00 pm

**Credit Hours:** 12 credits, 1st and 2nd semester;  
14 credits, 3rd, 4th, 5th and 6th semester.

**Prerequisites:** DMD or equivalent

**Co-Requisites:** None

**Course Description:** Clinical periodontal practice emphasizing the elements of case documentation, patient evaluation and examination, diagnosis, prognosis, and treatment planning. Complete periodontal therapy performed under staff guidance.

**Intended Learning Outcome:** Students are expected to progress toward and ultimately obtain the competencies and proficiencies listed in the Periodontology Program manual.

**Course Topics and Content:** This is the clinical portion of the periodontal program. Students are assigned patients for periodontal consultation, diagnosis and treatment. The Program Coordinator is responsible for patient assignment.

**Assignments and Due Dates:** Students are expected to be in the clinical facility on all assigned days. If a student has no assigned patient for a specific clinic session he or she is expected to assist a classmate in patient care.

**Methods and Dates of Student Evaluations:** Students will be evaluated twice per year on their progress toward attaining competency or proficiency in clinical periodontology. A final grade for each year will be submitted.

**Teaching and Learning Methodologies:** Mentored clinical patient care

**Course Text, Recommended Reading, Material, and Resources:** Students will be provided adequate assigned clinic time and assistance to treat their assigned patients.

## **PE 991, 992, 993: Research: Periodontology**

**Course Instructor:** Dr. Haneen Bokhadhoor / Faculty

**Office Hours:** Sunday –Thursday 9:00 am to 4:00 pm

**Credit Hours:** 6 credits, 1st, 2nd, 3rd and 4th semester;  
8 credits, 5th and 6th semester.

**Prerequisites:** DMD or equivalent

**Co-Requisites:** None

**Course Description:** Research in periodontology or its related pre-clinical sciences, partially satisfies requirement for the Master of Science in Dentistry. First year students will be assigned a research topic by their research mentors.

**Intended Learning Outcome:** By the completion of this course the students will carry out an original research project, write and defend a thesis and be able to analyze the relevant dental literature. Successful completion of this course, in addition to passing required lecture and seminar courses will lead to the awarding of the Master of Science in Dentistry (MSD) degree.

**Course Topics and Content:** This course involves carrying out a research project or field project under the supervision of a research advisor. Research is generally related to the student's field of specialty education and may involve clinical research or public health research.

**Assignments and Due Dates:** There are no specific assignments. However it is generally expected that the student will have developed a research topic and done a literature review by the end of the first year, made substantial progress on the research by the end of the second year and have written and defended a thesis by April of the third year.

**Methods and Dates of Student Evaluations:** The student will meet with the research advisor on a regular basis to seek guidance and to review progress. The advisor will submit a grade annually based on student progress and comprehension of the material.

**Teaching and Learning Methodologies:** The accomplishment of a research project is highly individualized and methods will vary. Research seminars and periodic meetings with the research advisor will be a part of the learning process.

**Course Text, Recommended Reading, Material, and Resources:** There is no specific recommended reading material. The research advisor may give reading assignments depending on the area of research.