



# BROWARD COMMUNITY COLLEGE COURSE OUTLINE

**LAST REVIEW:** 2006-7

**NEXT REVIEW:** 2011-12

**STATUS:** A

**COURSE TITLE:** PERIODONTOLOGY

**COMMON COURSE NUMBER:** DEH 1602

**CREDIT HOURS:** 3

**CONTACT HOUR BREAKDOWN**

*(per 16 week term)*

**CLOCK HOURS:** n/a  
*(Voc. Course ONLY)*

**Lecture:** 3 hours

**Lab:** n/a

**Clinic:** n/a

**Other:** n/a

**PREREQUISITE(S):** DEH 1003, DEH 1003L, DEH 2400, DES 2050, DEH 1800, DEH 1800L

**COREQUISITE(S):** DEH 1802, DEH 1802L

**COURSE DESCRIPTION:**

This course presents the etiology and classification of periodontal disease and principles of periodontia pertinent to dental hygiene practice. Principles of occlusion and periodontal surgery techniques are discussed through the use of case presentations.

**UNIT TITLES**

1. Periodontal Anatomy
2. Basic Etiology of Periodontal Disease
3. Gingivitis
4. Gingival Enlargement
5. Periodontitis
6. Periodontal Occlusal Trauma
7. Classification of Periodontal Disease
8. Periodontal Examination, Diagnosis and Treatment Planning
9. Plaque Control in Periodontal Therapy
10. Basic Instrumentation for Scaling and Root Planing
11. Early Onset Periodontitis
12. Gingival Recession





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**UNITS**

**Unit 1      Periodontal anatomy**

**General Outcome:**

**1.0      The student shall:** Describe the anatomy of the periodontium and its function in maintaining a viable, healthy support structure for the tooth.

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

- 1.1** Describe the normal clinical and microscopic features of the gingiva.
- 1.2** Discuss the correlation of clinical and microscopic features of the gingiva.
- 1.3** Explain the normal microscopic features of the periodontal ligament, cementum, and alveolar bone.
- 1.4** Differentiate between dehiscence and fenestration.
- 1.5** Describe changes of the periodontium that occur with physiologic aging.
- 1.6** Describe the subdivisions of the oral mucosa including functions and examples of each.
- 1.7** List the four parts of the periodontium.
- 1.8** Describe the anatomical components of gingival tissue including papillary, marginal, attached, and mucosal areas.
- 1.9** Differentiate the three boundaries of the gingival tissues.
- 1.10** Describe the functions of the gingival tissues, including the attached gingiva.
- 1.11** Describe the histological features of gingival tissues including the gingival fiber groups and epithelial and connective tissue components.
- 1.12** Explain the functions of the gingival and periodontal fibers.
- 1.13** Define a hemidesmosome.



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- 1.14 Describe the vascular supply of the periodontium, including the three main vessels which supply the area.
- 1.15 Distinguish between the junctional epithelium and the epithelial attachment.
- 1.16 Describe the components of gingival sulcus fluid (crevicular fluid) including any beneficial and/or detrimental influences it may have on the periodontium.
- 1.17 Define rete pegs and explain their importance.
- 1.18 Describe the principle fibers of the periodontal ligament.
- 1.19 Discuss the functions of the periodontal ligament.
- 1.20 Describe the cellular elements of the periodontal ligament.
- 1.21 Define Sharpey's fibers
- 1.22 Describe the two types of bone which are found in the alveolar process.
- 1.23 Describe the Histologic arrangement of alveolar bone.
- 1.24 Define the anatomic components of the alveolar process.
- 1.25 Discuss the microscopic features of alveolar bone.
- 1.26 Describe the two types of defects which can occur in the alveolar process.
- 1.27 Describe cementum, including its functions and features.
- 1.28 Describe the difference between and the location of the two types of cementum.
- 1.29 Explain the possible relationships of cementum and enamel and include the probabilities that they exist.
- 1.30 Explain the changes that occur in cementum in periodontal disease.
- 1.31 Explain the biologic rationale for root planing as it relates to diseased cementum.



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**Unit 2 Basic Etiology of Periodontal Disease**

**General Outcome:**

**2.0 The student shall:** Explain the factors that cause, modify or contribute to the development of periodontal disease.

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

- 2.1 Differentiate between local and systemic factors which influence periodontal disease.
- 2.2 Describe the role of microorganisms in periodontal disease.
- 2.3 Discuss the microbiology of the periodontium in health and with gingivitis, periodontitis, and localized juvenile periodontitis.
- 2.4 Discuss the following hormonal conditions or diseases and their influences on periodontal disease:
  - Diabetes
  - puberty
  - menstrual cycle
  - pregnancy
  - oral contraceptives
- 2.5 Explain the differences between the specific plaque hypothesis and the non-specific plaque hypothesis.
- 2.6 Describe the cell wall in Gram + and Gram – bacteria.
- 2.7 Discuss the role of oxygen in aerobes, anaerobes, and capnophiles.
- 2.8 Describe pellicle formation of supragingival plaque
- 2.9 Discuss the significance of the initial colonization of bacteria
- 2.10 Describe bacterial co-aggregation.
- 2.11 Discuss the bacterial factors involved with disease progression.



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- 2.12** Differentiate tooth-associated subgingival plaque, epithelium (tissue)-associated subgingival plaque, connective tissue-associated subgingival plaque, and unattached subgingival plaque.
- 2.13** Describe the primary initiating factor in gingival and periodontal infections including microbiological factors.
- 2.14** Discuss three concepts to consider with regards to virulence of periodontal pathogens.
- 2.15** Explain the importance of dental plaque to the dental hygienist.
- 2.16** Describe, in detail, the bacterial changes in accumulative plaque.
- 2.17** Given a clean slide and cover slip, describe how to prepare a microbiological slide for evaluation under phase contrast microscopy.
- 2.18** Given a sample of a patient's bacterial plaque describe the findings both qualitatively and quantitatively.
- 2.19** Discuss the positive and negative factors of phase contrast microscopy.
- 2.20** Describe the role of local predisposing factors in gingival and periodontal infections.
- 2.21** Discuss the host factors involved in disease progression
- 2.22** Describe the role of local functional factors in gingival and periodontal infections.



**Unit 3      Gingivitis**

**General Outcome:**

**3.0      The student shall:**      Discuss chronic and acute gingivitis conditions.

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

- 3.1**      Explain the role of inflammation in gingival disease.
- 3.2**      Define the following types and locations of gingivitis:
  - acute
  - chronic
  - diffuse
  - generalized
  - generalized diffuse
  - localized
  - localized diffuse
  - localized papillary
  - marginal
  - papillary
  - recurrent
  - subacute
- 3.3**      Describe the progression of gingivitis from Stage I to Stage III.
- 3.4**      Discuss bleeding and changes in color, consistency, surface texture, contour in gingivitis.
- 3.5**      Describe the following gingival conditions, including the etiology, clinical features, histopathology, prognosis, and treatment:
  - acute necrotizing ulcerative gingivitis (ANUG)
  - acute primary herpetic gingivostomatitis (APHGS)
  - desquamative gingivitis
  - chronic gingivitis
- 3.6**      Differentiate between the nonambulatory and ambulatory patient with ANUG.
- 3.7**      Discuss the use of the ultrasonic scaler in treating ANUG patients.
- 3.8**      Explain contraindications to deep scaling and curettage for the patient with ANUG.



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- 3.9** Describe the day-to-day treatment of the patient with ANUG.
- 3.10** Discuss the gingival changes that occur with healing in the ANUG patient.
- 3.11** List the sequence of treatment in persistent ANUG cases.
- 3.12** Discuss the use of drug therapy in the treatment of ANUG.
- 3.13** Describe the treatment of acute herpetic gingivostomatitis.
- 3.14** Describe the normal, healthy periodontium of children and adolescents.
- 3.15** Compare and contrast the periodontium of the child with that of an adult.
- 3.16** Recognize that tooth eruption does not cause gingivitis.
- 3.17** Discuss the prevalence of gingivitis in children.
- 3.18** Discuss the periodontium of the deciduous dentition.
- 3.19** Describe the physiologic changes associated with tooth eruption.
- 3.20** Describe radiographic findings of gingivitis.
- 3.21** Develop a treatment plan for a patient with a chronic gingival condition.
- 3.22** Compare and contrast the diagnostic signs, symptoms, and treatment of ANUG & APHGS.
- 3.23** Develop a treatment plan for a patient with an acute gingival condition.



**Unit 4      Gingival Enlargement**

**General Outcome:**

**3.0 The student shall: Describe the etiologies, appearance and treatments of conditions causing gingival enlargement**

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

- 4.1** Recognize treatment procedures for gingival enlargement.
- 4.2** Differentiate among and give examples of:
  - inflammatory gingival conditions
  - noninflammatory gingival conditions
  - combined gingival conditions
- 4.3** Describe the etiology and clinical features of gingival enlargement.
- 4.4** Define the characteristics of acute conditions.
- 4.5** Define the characteristics of chronic conditions.
- 4.6** Differentiate between acute and chronic conditions.
- 4.7** Describe chronic gingivitis including clinical characteristics, etiology, prognosis, treatment, and preventive measures.
- 4.8** Describe the role played by systemic conditions in the development and progression of Gingival and periodontal conditions.
- 4.9** Describe the clinical characteristics, histopathology, etiology, treatment, prognosis, and preventive measures for the following:
  - a. Puberty gingivitis
  - b. Pregnancy gingivitis
  - c. Phenytoin enlargement
  - d. Familial hereditary gingival enlargement
- 4.10** Give examples of some heart drugs that will affect gingival tissues.



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**Unit 5      Periodontitis**

**General Outcome:**

**5.0      The student shall:** Explain the clinical characteristics, etiology, treatment, and prevention of periodontitis.

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

- 5.1      Recognize the classifications of chronic destructive periodontitis.
- 5.2      Describe the histopathology of periodontitis.
- 5.3      Explain changes that may occur in the cementum during periodontal pocket formation.
- 5.4      Recognize that changes can occur in the pulp as a result of pocket formation.
- 5.5      Discuss the spread of gingival inflammation into the alveolar bone.
- 5.6      Differentiate between supra and infra bony pockets.
- 5.7      Describe the clinical aspects of inflammation of the periodontal ligament.
- 5.8      Discuss the process of bone loss in periodontal disease.
- 5.9      Differentiate among horizontal bone loss, vertical or angular defects, and osseous craters.
- 5.10     State the etiology of furcation involvements.
- 5.11     Describe the clinical characteristics of periodontitis.
- 5.12     Recognize bone loss on radiographs.
- 5.13     Describe the radiographic characteristics of periodontitis.
- 5.14     Discuss the phases of treatment therapies for periodontitis.
- 5.15     Describe the prognosis for periodontitis cases.
- 5.16     Differentiate periodontitis from chronic gingivitis.



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**Unit 6      Periodontal Occlusal Trauma**

**General Outcome:**

- 6.0      The student shall:** Discuss the relationship the occlusal trauma has to periodontal disease.

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

- 6.1** State the criterion which determines whether occlusion is traumatic.
- 6.2** Recognize the following:  
intercuspal position protrusion  
muscular contact position retrusion  
retruded position laterotrusion  
retruded contact position laterotrusive side  
excursive movement mediotrusive side
- 6.3** Differentiate among:  
supracontacts retrusive prematurities  
occlusal interferences intercuspal prematurities
- 6.4** Discuss the influence of occlusal interferences.
- 6.5** Define border movement, contact movement, intraborder movement, and excursions.
- 6.6** Discuss the importance of the forces of occlusion.
- 6.7** Define vertical dimension of occlusion.
- 6.8** Explain the concept of canine-protected occlusion.
- 6.9** Discuss bruxism and its treatment.
- 6.10** Describe changes that can occur in the periodontium as a result of occlusal trauma.
- 6.11** Explain the three stages of trauma from occlusion.
- 6.12** Describe radiographic signs of trauma from occlusion.
- 6.13** Define trauma from occlusion and its relationship to periodontal tissues.



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- 6.14** Describe the clinical signs and symptoms, radiographic and histological characteristics of occlusal trauma.
- 6.15** Describe what is meant by adaptive remodeling.
- 6.16** Explain the mechanism of bone loss in occlusal traumatism.
- 6.17** Describe the relationship between occlusal trauma and the development/progression of a periodontal condition.
- 6.18** Describe possible treatment options for occlusal trauma.



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**Unit 7      Classification of Periodontal Disease**

**General Outcome:**

**7.0    The student shall:** List the basic classifications of periodontal disease based on clinical characteristics, the nature of the tissue destruction, and the etiology.

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

- 7.1**    Categorize the different periodontal diseases under the headings of gingival diseases and periodontal conditions.
- 7.2**    Describe the American Academy of Periodontology classification of periodontal diseases and conditions.
- 7.3**    Given a case history, identify and classify the periodontal condition.



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**Unit 8      Periodontal Examination, Diagnosis and Treatment Planning**

**General Outcome:**

**8.0 The student shall:** Discuss periodontal evaluation and treatment planning.

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

- 8.1** Discuss three ways in which the medical history may influence the periodontal examination and treatment plan.
- 8.2** Describe observations that should be included in the periodontal examination involving the following:
  - medical history    calculus
  - dental history    gingival margin
  - intra/intraoral examination    attached gingiva
  - stains    pocket measurements
  - sensitivity    trauma from occlusion
  - proximal contact relations    nutritional status
  - tooth mobility    suppuration
  - pathologic migration of teeth    bleeding
  - plaque/biofilm
- 8.3** Explain the statement "periodontal disease that produces even slight radiographic change has progressed beyond the earliest stages".
- 8.4** Recognize horizontal and vertical bone loss on a radiograph.
- 8.5** Discuss the necessity of utilizing a periodontal probe in addition to radiographs in completing a clinical examination.
- 8.6** Describe radiographic changes in periodontitis, furcation involvement, and juvenile periodontitis.
- 8.7** Explain clinical attachment loss.
- 8.8** Compare the common destructive factors in horizontal and vertical bone loss.
- 8.9** Describe radiographic changes in the periodontium as it relates to clinical findings and appropriate categories of disease progression.



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- 8.10** List the objectives of periodontal therapy.
- 8.11** Describe the importance of:
- assessment of past bone response
  - height of remaining bone
  - patient's age
  - periodontal pockets
  - malocclusion
  - patient's attitude in determining the overall prognosis of periodontal disease
- 8.12** List factors which influence prognosis of individual teeth.
- 8.13** Describe the phases of a periodontal treatment plan.
- 8.14** Prepare a dental hygiene periodontal treatment plan.
- 8.15** Describe what is included in a complete periodontal evaluation.
- 8.16** Describe furcation involvement and its classifications.
- 8.17** Describe tooth mobility and its classifications.
- 8.18** Describe the changes in color, consistency, texture, contour in size and shape for gingival inflammation.



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**Unit 9      Plaque Control In Periodontal Therapy**

**General Outcome:**

- 9.0 The student shall:** Recognize that effective plaque control is the basis for the prevention and treatment of most inflammatory changes in the periodontal tissues.

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

- 9.1** List the objectives of Phase I therapy.
- 9.2** Discuss the importance of evaluation during Phase I.
- 9.3** Name six causes of failure in treatment of uncomplicated gingivitis.
- 9.4** List the uses of antimicrobial agents for patients with periodontal disease.
- 9.5** Describe the use of antimicrobial agents as adjuncts to nonsurgical therapy.
- 9.6** State the five characteristics of the ideal antibiotic for use in periodontal disease.
- 9.7** List the disadvantages of topical and systemic antibiotics in the treatment of periodontal disease.
- 9.8** Name three antibiotics that can be used in the treatment of periodontal disease.
- 9.9** Discuss the local administration of antibiotics and fluorides in periodontal therapy.
- 9.10** State when the maintenance phase of periodontal treatment begins.
- 9.11** Discuss three components of a recall appointment.
- 9.12** List five causes of recurrence of periodontal disease.
- 9.13** Discuss factors to consider in the determination in the frequency of recall.
- 9.14** Design a plaque control program for each patient based upon that patient's individual needs.



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**Unit 10 Basic Instrumentation for Scaling and Root Planing**

**General Outcome:**

**10.0 The student shall:** State the importance of scaling and root planing in the prevention and treatment of periodontal disease.

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

- 10.1** Describe the importance of thorough scaling and root planing in the treatment and maintenance of periodontal patients.
- 10.2** Define gross scaling and debridement.
- 10.3** Compare and contrast scaling, root planing, and debridement.
- 10.4** Describe attached plaque, loosely adherent plaque, and epithelium-associated plaque and describe the relevance of each plaque in regards to periodontal disease effect.
- 10.5** Define endotoxin and discuss the instrumentation techniques necessary for its removal.
- 10.6** State the current goal of current periodontal therapy.
- 10.7** Describe when a clinician would know when scaling and root planing have been successful.
- 10.8** Discuss at least three problems associated with gross scaling.
- 10.9** Explain at least three periodontal debridement therapy modalities.
- 10.10** Give at least one outstanding characteristic of every tooth in the dentition relevant to periodontal debridement.



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**Unit 11                      Early Onset Periodontitis**

**General Outcome:**

**11.0     The student shall:** State the clinical characteristics, etiology, treatment and prognosis of juvenile periodontitis.

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

- 11.1** Describe aggressive (juvenile) periodontitis and its clinical course.
- 11.2** List four diseases with which aggressive periodontitis is commonly associated.
- 11.3** Discuss radiographic findings of aggressive (juvenile) periodontitis.
- 11.4** State the role of heredity in aggressive (juvenile) periodontitis.
- 11.5** Discuss the treatment of aggressive (juvenile) periodontitis.
- 11.6** Describe the two forms of aggressive (juvenile) periodontitis.
- 11.7** Identify the systemic conditions which can be associated with aggressive (early onset) periodontitis



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**Unit 12      Gingival Recession**

**General Outcome:**

**12.0    The student shall:**    Explain the process of gingival recession.

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

- 12.1 Describe gingival recession.
- 12.2 Differentiate between the actual and apparent position of the gingiva.
- 12.3 Describe at least five conditions which contribute to gingival recession.
- 12.4 Explain the clinical significance of gingival recession.
- 12.5 Discuss treatment of gingival recession.
- 12.6 Describe Stillman's Cleft and McCall's festoon.
- 12.7 Describe the radiographic findings associated with recession.
- 12.8 Describe the prognosis and treatment of recession.
- 12.9 List treatment methods for correcting or preventing an area of recession.
- 12.10 Describe preventive measures involved with the prevention of gingival recession.



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**Unit 13                      Abscesses and Cysts**

**General Outcome:**

**13.0 The student shall:** Describe clinical characteristics, etiology, treatment and prognosis of pericoronitis, gingival abscesses, periodontal abscesses, and cysts.

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

- 13.1** Describe three factors to consider in the treatment of pericoronitis.
- 13.2** Discuss initial treatment of pericoronitis.
- 13.3** Differentiate between acute and chronic periodontal abscesses.
- 13.4** List three purposes of treatment of an acute abscess.
- 13.5** Differentiate between the procedures of drainage through the pocket and drainage through external incision.
- 13.6** Compare and contrast periodontal and periapical abscesses.
- 13.7** Differentiate between periodontal and gingival abscesses.
- 13.8** Differentiate between an abscess and a cyst.
- 13.9** State the treatment for a cyst.



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**Unit 14                      Surgical Periodontal Procedures**

**General Outcome:**

**14.0            The student shall:**      Recognize the indications and techniques for different types of periodontal surgery.

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

- 14.1** State the purpose of periodontal surgery.
- 14.2** Name three methods of pocket elimination.
- 14.3** Discuss three ways that Phase I therapy can prepare the patient for periodontal surgery.
- 14.4** Describe post-operative instructions to be given to the patient regarding:
  - persistent bleeding
  - sensitivity to percussion
  - swelling
  - weakness
- 14.5** Explain instructions for post-operative oral hygiene care.
- 14.6** Define gingivectomy.
- 14.7** List the indications and contraindications for gingivectomy.
- 14.8** Explain the use of gingivoplasty.
- 14.9** Describe a periodontal flap.
- 14.10** List three reasons that periodontal flaps are used.
- 14.11** Differentiate between full thickness and partial thickness flaps.
- 14.12** Recognize several types of sutures.
- 14.13** State the purpose of osseous surgery.
- 14.14** Differentiate between non-graft and graft associated new attachments.
- 14.15** State the purpose of mucogingival surgery.
- 14.16** Name the indications for a frenectomy.