



# **ILLINOIS VALLEY COMMUNITY COLLEGE**

## **COURSE OUTLINE**

**DIVISION: Workforce Development**

**COURSE: DLH 1203 Periodontology**

Date: Spring 2021

Credit Hours: 2

Prerequisite(s): Successful completion of all first-year, fall semester courses listed in the Dental Hygiene A.A.S. Degree

Delivery Method:  **Lecture**            **2 Contact Hours (1 contact = 1 credit hour)**  
 **Seminar**            **0 Contact Hours (1 contact = 1 credit hour)**  
 **Lab**                    **0 Contact Hours (2-3 contact = 1 credit hour)**  
 **Clinical**            **0 Contact Hours (3 contact = 1 credit hour)**  
 **Online**  
 **Blended**

Offered:  **Fall**     **Spring**     **Summer**

IAI Equivalent –**Only for Transfer Courses**-go to <http://www.itransfer.org>:

### **CATALOG DESCRIPTION:**

This course is intended to provide the dental hygiene student with an understanding of the anatomy and physiology of the tissue of the periodontium in both health and disease. This course will highlight methods and procedures of patient treatment and management of the disease processes related with periodontal disease.

## GENERAL EDUCATION GOALS ADDRESSED

*[See last page for Course Competency/Assessment Methods Matrix.]*

### Upon completion of the course, the student will be able:

*[Choose up to three goals that will be formally assessed in this course.]*

- To apply analytical and problem solving skills to personal, social, and professional issues and situations.
- To communicate successfully, both orally and in writing, to a variety of audiences.
- To construct a critical awareness of and appreciation for diversity.
- To understand and use technology effectively and to understand its impact on the individual and society.
- To develop interpersonal capacity.
- To recognize what it means to act ethically and responsibly as an individual and as a member of society.
- To recognize what it means to develop and maintain a healthy lifestyle in terms of mind, body, and spirit.
- To connect learning to life.

### EXPECTED LEARNING OUTCOMES AND RELATED COMPETENCIES:

*[Outcomes related to course specific goals. See last page for more information.]*

#### Upon completion of the course, the student will be able to:

1. Identify historical perspectives on dental hygiene and periodontology
  - 1.1. Describe the historical development of the profession of dental hygiene.
  - 1.2. Explain how we know that preventive oral health has been a concern throughout the ages.
  - 1.3. Define the roles and opportunities for the dental hygienist.
  - 1.4. Explain the effects of improved dental equipment and operator design on working conditions for the dental hygienist.
  - 1.5. Describe the roles of the dental hygienist as defined by the American Dental Hygienists Association.
2. Explain anatomic characteristics and host response of the periodontium
  - 2.1. Identify the tissues of the periodontium.
  - 2.2. Describe the anatomy and clinical characteristics of the tissues of the periodontium.
  - 2.3. Differentiate among the three types of oral epithelial surfaces: keratinized, parakeratinized, and nonkeratinized.
  - 2.4. List the functions of the periodontal ligament.
  - 2.5. Describe clinically normal gingivae in terms of color, size, contour, texture, and consistency.
  - 2.6. Describe the interactions of the major elements in the host response.
  - 2.7. Define the protective roles of gingival fluid and saliva.
3. Explain epidemiology of periodontal disease
  - 3.1. Define epidemiology.
  - 3.2. Explain the relationship of this discipline to the identification and treatment of gingival and periodontal disease.
  - 3.3. Compare and contrast the plaque, calculus, bleeding, and periodontal indices that are used to quantify conditions in the oral cavity.
  - 3.4. Explain how population scoring systems are applied to the diagnosis and treatment of disease.

- 3.5. Describe the national prevalence data relating to tooth loss and gingival and periodontal disease.
- 3.6. Explain how national prevalence data are used to understand the status of periodontal health in the United States.
- 3.7. List the major risk factors and determinants that are related to periodontal disease.
- 3.8. Describe the disease prevalence trends revealed for gingival and periodontal disease.
- 3.9. State the prevalence of aggressive periodontitis.
4. Explain microbiology of periodontal diseases
  - 4.1. Describe the development of supragingival and subgingival plaque biofilms
  - 4.2. Compare the composition of supragingival and subgingival plaque biofilms. • Describe the role of saliva in pellicle formation.
  - 4.3. Define the mechanisms for bacterial plaque biofilm adherence to tooth surfaces.
  - 4.4. Describe the influence of bacterial surface components (e.g., capsules, appendages) on bacterial colonization and coaggregation.
  - 4.5. Discuss plaque biofilm microbial succession in terms of oxygen and nutrient requirements and bacterial adherence.
  - 4.6. Compare the nonspecific and specific plaque hypotheses.
  - 4.7. Describe and classify the specific bacteria associated with the major periodontal infections: gingivitis, chronic periodontitis, localized aggressive periodontitis, generalized aggressive periodontitis, and necrotizing ulcerative gingivitis and periodontitis.
  - 4.8. Define the bacterial characteristics that contribute to their virulence.
  - 4.9. Describe the significance of dental plaque biofilm to dental hygiene practice.
5. Identify calculus and other disease-associated factors
  - 5.1. Describe the role of dental calculus and other disease-associated factors in the initiation and perpetuation of gingival and periodontal disease.
  - 5.2. Describe the formation and attachment of supragingival and subgingival calculus in the oral environment.
  - 5.3. Describe the distribution of calculus deposits.
  - 5.4. Compare the composition, distribution, and attachment of supragingival and subgingival calculus.
  - 5.5. Explain how anticalculus agents work in reducing calculus formations in humans.
  - 5.6. List the variety of factors that are linked to periodontal disease.
  - 5.7. Describe hygienic restorations.
  - 5.8. Explain the role of the dental hygienist in the recognition and provision of care for patients with disease-associated factors
6. Explain gingival disease
  - 6.1. Define the types of gingivitis.
  - 6.2. Relate the clinical signs and symptoms of gingivitis to the pathogenesis of each stage of disease.
  - 6.3. List the similarities and differences in the clinical presentation, treatment, and healing of dental plaque biofilm–induced gingivitis and other gingival conditions.
  - 6.4. Identify the medications that can cause gingival hyperplasia in patients.
  - 6.5. Describe examples of bacterial, viral, and fungal infections that affect the gingiva.
  - 6.6. Define necrotizing ulcerative gingivitis.
  - 6.7. List the relatively common systemic conditions that have gingival manifestations.
  - 6.8. Describe the role of the dental hygienist in the treatment of gingivitis.
7. Explain periodontal disease
  - 7.1. Describe the pathogenesis of periodontitis.

- 7.2. Define periodontal disease activity.
- 7.3. List and describe the American Academy of Periodontology categories of periodontal diagnosis.
- 7.4. Define clinical attachment loss and its relationship to periodontitis.
- 7.5. Compare and contrast the following forms of periodontitis as to demographics and clinical and microbiologic characteristics: Chronic periodontitis, Aggressive periodontitis, Prepubertal periodontitis, Early-onset periodontitis, Rapidly progressing periodontitis, Refractory periodontitis, Necrotizing ulcerative periodontitis, Periodontitis as a manifestation of systemic disease
- 7.6. Identify systemic diseases and genetic factors associated with periodontal disease.
- 7.7. State the role of systemic antibiotic treatment, locally delivered controlled-release antibiotic treatment, and enzyme suppression treatment in periodontitis.
- 7.8. Describe the role of the dental hygienist in treating periodontal disease.
8. Explain clinical assessment
  - 8.1. Describe the connection between patients' overall health and their oral health
  - 8.2. Define the aspects of clinical assessment in the dental hygiene process of patient care
  - 8.3. List and describe the indices that measure: Plaque biofilm accumulation, Periodontal status, Furcation involvement, Tooth mobility, Dental caries, Root caries, Tooth wear
  - 8.4. Describe the intrinsic and extrinsic dental stains and their associated causes.
  - 8.5. Compare and contrast normal and abnormal clinical presentation of the periodontium and dentition.
  - 8.6. Identify the radiographic changes seen in periodontal diseases.
  - 8.7. Compare and contrast normal and abnormal clinical and radiographic presentation of the periodontal structures surrounding dental implants.
9. Explain systemic factors influencing periodontal diseases
  - 9.1. Understand systemic factors that influence dental hygiene care.
  - 9.2. Describe conditions that require consultation with a patient's physician.
  - 9.3. Describe changes in oral tissues observed with systemic diseases and conditions.
  - 9.4. List modifications needed for optimal treatment of patients with systemic conditions.
10. Explain treatment planning for the periodontal patient
  - 10.1. Describe the goals and rationale for periodontal treatment planning.
  - 10.2. Define the role of the dental hygienist in determining the dental hygiene care plan.
  - 10.3. Classify the phases of dental treatment included in the comprehensive care plan.
  - 10.4. List the major classifications of periodontal disease.
  - 10.5. Identify the considerations for sequencing dental hygiene treatment with periodontal diseases.
  - 10.6. Identify the patient factors to be considered when establishing the treatment plan sequence.
  - 10.7. Discuss informed consent and its importance to the process of patient care.
11. Explain occlusion and temporomandibular disorders
  - 11.1. Define the role of the dental hygienist in the detection of occlusal abnormalities and jaw dysfunction.
  - 11.2. Describe the biologic basis of occlusal function and the adaptive capability of the oral system.
  - 11.3. Compare and contrast the classification of primary and secondary traumatic occlusion in periodontal diagnosis and treatment.
  - 11.4. List the common signs and symptoms of temporomandibular disorders.
  - 11.5. Describe the procedures for clinically assessing jaw function and occlusion in a screening examination.

- 11.6. Identify the various modalities used to treat temporomandibular disorders.
12. Discuss plaque biofilm and disease control for the periodontal patient
  - 12.1. List the goals for plaque biofilm control for the periodontal patient
  - 12.2. Recognize the role of plaque biofilm removal as an essential element in dental hygiene treatment for patients with periodontal disease.
  - 12.3. Describe why plaque biofilm control is more complex for periodontal patients than for those without clinical attachment loss.
  - 12.4. Evaluate interproximal plaque biofilm removal techniques that permit access to root surface concavities and furcations.
  - 12.5. Differentiate the methods for toothbrushing and interproximal plaque biofilm removal for patients with periodontal disease.
  - 12.6. Compare the effectiveness and uses of supragingival and subgingival irrigation.
  - 12.7. Identify effective chemical plaque biofilm control agents and their indications for use.
  - 12.8. Describe the role of motivation in gaining compliance of patients for plaque biofilm control programs.
13. Explain nonsurgical periodontal therapy
  - 13.1. Define nonsurgical periodontal therapy.
  - 13.2. Describe the short- and long-term goals of nonsurgical periodontal therapy.
  - 13.3. Identify the techniques and applications for nonsurgical periodontal therapy procedures.
  - 13.4. Describe the process of healing after periodontal debridement procedures, scaling, and root planing.
  - 13.5. Explain the limitations of calculus removal and the expectations for clinician proficiency.
  - 13.6. Discuss the use of lasers in nonsurgical therapy.
  - 13.7. Describe the contributions of magnification with use of loupes, endoscopy, and microscopes to nonsurgical therapy.
  - 13.8. Explain the benefits and indications of antimicrobial adjuncts to nonsurgical therapy.
14. Discuss periodontal surgery
  - 14.1. Describe the rationale for periodontal surgical treatment.
  - 14.2. Recognize the clinical conditions that are most likely to benefit from periodontal surgery.
  - 14.3. Define the types of periodontal surgery: Excisional periodontal surgery, Incisional periodontal surgery, Access flap procedures, Osseous surgery, Mucogingival surgery, Regeneration surgery
  - 14.4. Describe the healing of tissues after periodontal surgery.
  - 14.5. Define postoperative procedures.
  - 14.6. Describe postoperative instructions for patients receiving periodontal surgery.
  - 14.7. Define the changes and modifications in plaque biofilm control required for patients after periodontal surgery.
  - 14.8. Identify the role of the dental hygienist in the surgical treatment of periodontal disease.
15. Explain dental implants
  - 15.1. Describe the common types of dental implants.
  - 15.2. Discuss the indications and contraindications for dental implant therapy.
  - 15.3. Explain why titanium is the best biomaterial available for use in dental implants.
  - 15.4. Define the concept of osseointegration.
  - 15.5. Compare and contrast the bone and soft tissue interfaces of implants and the natural dentition.

- 15.6. List the criteria for success used in implant therapy.
- 15.7. Describe the maintenance protocol for implant patients.
- 15.8. Evaluate the elements of appropriate home care regimens for patients with implants.
- 16. Discuss periodontal emergencies
  - 16.1. Define the role of the dental hygienist in the recognition and treatment of periodontal emergencies.
  - 16.2. Describe the etiology of periodontal abscesses.
  - 16.3. Compare and contrast the signs, symptoms, and treatment considerations in patients with gingival, periodontal, and periapical abscesses.
  - 16.4. Describe the distinguishing features of necrotizing ulcerative gingivitis.
  - 16.5. List the identifying features of pericoronitis.
  - 16.6. Outline the treatment for necrotizing ulcerative gingivitis and oral herpetic lesions.
  - 16.7. Describe the symptoms and oral lesions of acute herpetic gingivostomatitis
- 17. Explain periodontal maintenance and prevention
  - 17.1. Explain the effectiveness of periodontal maintenance therapy in the prevention of disease, disease progression, and tooth loss.
  - 17.2. Describe the elements of a successful maintenance program.
  - 17.3. State five major objectives of periodontal maintenance.
  - 17.4. Define the importance of patient compliance.
  - 17.5. Describe strategies to improve compliance with recommended maintenance intervals and oral hygiene regimens.
  - 17.6. List the principal aims and components of the maintenance appointment.
  - 17.7. Recognize the signs of recurrent periodontitis and assess the factors that contribute to its development.
  - 17.8. Describe the causes of root surface caries and therapeutic approaches to prevent development of this common problem.
  - 17.9. Explain the theory, causes, and management of dentin sensitivity.
- 18. Discuss prognosis and results after periodontal therapy
  - 18.1. Define prognosis.
  - 18.2. Describe the difference between overall prognosis and tooth prognosis.
  - 18.3. Compare the elements of overall prognosis with the elements of tooth prognosis.
  - 18.4. List and describe the factors associated with overall prognosis.
  - 18.5. List and describe the factors associated with individual tooth prognosis.
  - 18.6. Describe the expected outcomes of periodontal therapy.

## MAPPING LEARNING OUTCOMES TO GENERAL EDUCATION GOALS

*[For each of the goals selected above, indicate which outcomes align with the goal.]*

<b>Goals</b>	<b>Outcomes</b>
First Goal	
To communicate successfully, both orally and in writing, to a variety of audiences.	10.7 Discuss informed consent and its importance to the process of patient care.
Second Goal	
To recognize what it means to develop	9.1 Understand systemic factors that influence dental hygiene care.

and maintain a healthy lifestyle in terms of mind, body, and spirit.	9.2 Describe conditions that require consultation with a patient's physician. 9.3 Describe changes in oral tissues observed with systemic diseases and conditions. 9.4 List modifications needed for optimal treatment of patients with systemic conditions.
Third Goal	
To connect learning to life.	17.4 Define the importance of patient compliance. 17.5 Describe strategies to improve compliance with recommended maintenance intervals and oral hygiene regimens. 17.6 List the principal aims and components of the maintenance appointment.

### **COURSE TOPICS AND CONTENT REQUIREMENTS:**

- I. Historical perspectives on dental hygiene and periodontology
  - a. historical development
  - b. preventive oral health
  - c. dental hygienist
    - i. roles
    - ii. opportunities
  - d. working conditions
    - i. dental equipment
    - ii. operatory design
  - e. American Dental Hygienists Association dental hygienists roles
    - i. Clinician
    - ii. Educator
    - iii. Researcher
    - iv. Administrator
    - v. Manager
    - vi. Advocate
- II. Anatomic characteristics and host response of the periodontium
  - a. tissues of the periodontium
    - i. gingiva
    - ii. periodontal ligament
    - iii. cementum
    - iv. alveolar bone
  - b. characteristics of the tissues of the periodontium
    - i. anatomy
    - ii. clinical
  - c. three types of oral epithelial surfaces
    - i. keratinized
    - ii. parakeratinized
    - iii. nonkeratinized
  - d. functions of the periodontal ligament
    - i. tooth anchorage
    - ii. fibrous tissue development and maintenance
    - iii. calcified tissue development and maintenance
    - iv. nutritive and metabolite transport

- v. Sensory functions
      - 1. touch
      - 2. pressure
      - 3. pain
      - 4. proprioception (displacement sensitivity)
  - e. normal gingivae
    - i. color
    - ii. size
    - iii. contour
    - iv. texture
    - v. consistency
  - f. interactions of the major elements in the host response
  - g. protective roles of gingival fluid and saliva
- III. Epidemiology of periodontal disease
  - a. Epidemiology
    - i. Prevalence
    - ii. Incidence
    - iii. Severity
    - iv. Risk factors
  - b. identification and treatment of gingival and periodontal disease
  - c. Indices
    - i. Plaque
    - ii. Calculus
    - iii. Bleeding
    - iv. Periodontal
  - d. population scoring systems
  - e. national prevalence data
    - i. tooth loss and gingival and periodontal disease
    - ii. understand the status of periodontal health in the United States
  - f. major risk factors and determinants
    - i. gender
    - ii. socioeconomic status
    - iii. tobacco use
    - iv. systemic disease
  - g. trends in disease prevalence
  - h. prevalence of aggressive periodontitis.
- IV. Microbiology of periodontal diseases
  - a. development of plaque biofilms
    - i. supragingival
    - ii. subgingival
  - b. composition of plaque biofilms
    - i. supragingival
    - ii. subgingival plaque
  - c. pellicle formation
    - i. role of saliva
  - d. mechanisms for bacterial plaque biofilm adherence to tooth surfaces
  - e. influence of bacterial surface components on bacterial colonization and coaggregation
  - f. plaque biofilm microbial succession



- i. oxygen requirements and bacterial adherence
    - ii. nutrient requirements and bacterial adherence
  - g. nonspecific and specific plaque hypotheses.
  - h. classify the specific bacteria associated with the major periodontal infections
    - i. gingivitis
    - ii. chronic periodontitis
    - iii. localized aggressive periodontitis
    - iv. generalized aggressive periodontitis
    - v. necrotizing ulcerative gingivitis and periodontitis
  - i. bacterial characteristics that contribute to their virulence
  - j. significance of dental plaque biofilm to dental hygiene practice
- V. Calculus and other disease-associated factors
  - a. role of dental calculus and other disease-associated factors in the initiation and perpetuation of gingival and periodontal disease
  - b. formation and attachment of calculus
    - i. supragingival
    - ii. subgingival
  - c. distribution of calculus deposits.
  - d. Supragingival calculus
    - i. Composition
    - ii. Distribution
    - iii. attachment
  - e. Subgingival calculus
    - i. Composition
    - ii. Distribution
    - iii. Attachment
  - f. anticalculus agents
  - g. factors that are linked to periodontal disease
    - i. orthodontic appliances
    - ii. malocclusion
    - iii. unreplaced missing teeth
    - iv. mouth breathing
    - v. anatomic anomalies
    - vi. tobacco and alcohol use
  - h. hygienic restorations.
  - i. dental hygienist in the recognition and provision of care for patients with disease-associated factors
- VI. Gingival disease
  - a. types of gingivitis
    - i. stage I
    - ii. stage II
    - iii. stage III
    - iv. stage IV
  - b. clinical signs and symptoms
  - c. pathogenesis
  - d. Classification of gingival diseases and conditions
  - e. medications that can cause gingival hyperplasia
  - f. Infections that affect the gingiva
    - i. Bacterial

- 1. Gonorrhoea
      - 2. syphilis
    - ii. Viral
      - 1. Herpes simplex
    - iii. Fungal
      - 1. Candida
      - 2. histoplasmosis
  - g. necrotizing ulcerative gingivitis.
  - h. common systemic conditions that have gingival manifestations
  - i. role of the dental hygienist in the treatment of gingivitis
- VII. Periodontal disease
- a. pathogenesis of periodontitis.
  - b. periodontal disease activity
  - c. American Academy of Periodontology categories of periodontal diagnosis
    - i. Gingivitis
    - ii. Chronic periodontitis
    - iii. Aggressive periodontitis
    - iv. Periodontitis as a manifestation of systemic disease
    - v. Necrotizing periodontal disease
    - vi. Abscess of the periodontium
    - vii. Periodontitis associated with endodontic lesions
    - viii. Development or acquired deformities and conditions
  - d. clinical attachment loss
  - e. periodontitis demographics and clinical and microbiologic characteristics
    - i. Chronic periodontitis
    - ii. Aggressive periodontitis
    - iii. Prepubertal periodontitis
    - iv. Early-onset periodontitis
    - v. Rapidly progressing periodontitis
    - vi. Refractory periodontitis
    - vii. Necrotizing ulcerative periodontitis
    - viii. Periodontitis as a manifestation of systemic disease
  - f. systemic diseases and genetic factors
    - i. cardiovascular disease
    - ii. preterm birth
    - iii. bacterial pneumonia
    - iv. diabetes
  - g. antibiotic treatment
  - h. locally delivered controlled-release antibiotic treatment
  - i. enzyme suppression treatment
  - j. role of the dental hygienist in treating periodontal disease.
- VIII. Clinical assessment
- a. connection between patients' overall health and their oral health
  - b. aspects of clinical assessment in the dental hygiene process of patient care
    - i. chief complaint
    - ii. medical and dental histories
    - iii. clinical examination
    - iv. radiographic examination
  - c. indices that measure:

- i. Plaque biofilm accumulation
    - ii. Periodontal status
    - iii. Furcation involvement
    - iv. Tooth mobility
    - v. Dental caries
    - vi. Root caries
    - vii. Tooth wear
  - d. intrinsic stains
    - i. fluorosis
    - ii. tetracycline stains
    - iii. minocycline
  - e. extrinsic stains
    - i. brown
    - ii. black
    - iii. green
    - iv. orange
  - f. normal and abnormal clinical presentation of the periodontium
    - i. probing measurements
    - ii. clinical attachment loss
    - iii. bleeding
    - iv. suppuration
    - v. furcation
    - vi. tooth mobility
    - vii. pathologic migration of teeth
    - viii. periodontal screening and recording system
  - g. normal and abnormal clinical presentation of the dentition
    - i. caries
    - ii. restoration
    - iii. proximal contacts
    - iv. anomalies
    - v. parafunctional habits
    - vi. tooth wear
    - vii. dentinal sensitivity and hypersensitivity
  - h. radiographic assessment
  - i. normal and abnormal clinical and radiographic presentation of the periodontal structures surrounding dental implants
- IX. Systemic factors influencing periodontal diseases
  - a. systemic factors that influence dental hygiene care
    - i. cardiovascular disease
    - ii. joint diseases and disorders
    - iii. endocrine disturbances and abnormalities
    - iv. infection disease
    - v. dermatologic diseases
    - vi. oral cancer
    - vii. blood dyscrasias
    - viii. neurologic disorders
    - ix. tobacco use and periodontal disease
  - b. conditions that require consultation with a patient's physician
  - c. changes in oral tissues observed with systemic diseases and conditions.

- d. modifications needed for optimal treatment of patients with systemic conditions
- X. Treatment planning for the periodontal patient
  - a. goals for periodontal treatment planning
  - b. role of the dental hygienist in determining the dental hygiene care plan
  - c. phases of dental treatment
    - i. preliminary
    - ii. phase I therapy
    - iii. phase II therapy
    - iv. phase III therapy
    - v. phase IV therapy
  - d. classifications of periodontal disease
    - i. Case Type I Gingivitis
    - ii. Case Type II Slight Chronic Periodontitis
    - iii. Case Type III Moderate Chronic or Aggressive Periodontitis
    - iv. Case Type IV Advanced Chronic or Aggressive Periodontitis
    - v. Case Type V Refractory Chronic or Aggressive Periodontitis
  - e. considerations for sequencing dental hygiene treatment
  - f. patient factors to be considered when establishing the treatment plan sequence
  - g. informed consent and its importance to the process of patient care

#### XI. Occlusion and temporomandibular disorders

- a. role of the dental hygienist in the detection of occlusal abnormalities and jaw dysfunction
- b. biologic basis of occlusal function and the adaptive capability of the oral system
- c. classification of primary and secondary traumatic occlusion in periodontal diagnosis and treatment
- d. signs and symptoms of temporomandibular disorders
  - i. Pain and tenderness in the muscles of mastication
  - ii. Pain and tenderness in the TMJ
  - iii. Painful clicking of the joint during function
  - iv. Limitation of mandibular motion
- e. procedures for clinically assessing jaw function and occlusion in a screening examination
- f. modalities used to treat temporomandibular disorders

#### XII. Plaque biofilm and disease control for the periodontal patient

- a. goals for plaque biofilm control for the periodontal patient
  - i. patient motivation
  - ii. patient responsibility
  - iii. management of complex plaque and control routine
  - iv. caries control
  - v. maintenance of gingival and periodontal health
- b. role of plaque biofilm removal as an essential element in treatment
- c. plaque biofilm control is more complex for periodontal patients
- d. interproximal plaque biofilm removal techniques
- e. methods for toothbrushing and interproximal plaque biofilm removal
- f. supragingival and subgingival irrigation
- g. effective chemical plaque biofilm control agents
  - i. chlorhexidine
- h. role of motivation

XIII. Explain nonsurgical periodontal therapy

- a. nonsurgical periodontal therapy
- b. short- goals of nonsurgical periodontal therapy
- c. long-term goals of nonsurgical periodontal therapy
- d. techniques and applications
  - i. hand instrumentation
  - ii. sonic and ultrasonic instrumentation
- e. process of healing
  - i. periodontal debridement procedures
  - ii. scaling
  - iii. root planing
- f. limitations of calculus removal and expectations for clinician proficiency
- g. use of lasers
- h. contributions of magnification
  - i. loupes
  - ii. endoscopy
  - iii. microscopes
- i. benefits and indications of antimicrobial adjuncts

XIV. Periodontal surgery

- a. rationale for periodontal surgical treatment
- b. clinical conditions that are most likely to benefit from periodontal surgery
- c. periodontal surgery
  - i. Excisional periodontal surgery
  - ii. Incisional periodontal surgery
  - iii. Access flap procedures
  - iv. Osseous surgery
  - v. Mucogingival surgery
  - vi. Regeneration surgery
- d. healing of tissues
- e. postoperative procedures.
- f. postoperative instructions
- g. changes and modifications in plaque biofilm control required for patients
- h. role of the dental hygienist in the surgical treatment of periodontal disease.

XV. Dental implants

- a. common types of dental implants
  - i. subperiosteal
  - ii. transosteal
  - iii. endosseous
- b. indications and contraindications for dental implant therapy
- c. best biomaterial available for use in dental implants
  - i. titanium
- d. osseointegration
- e. bone and soft tissue interfaces of implants and the natural dentition.
- f. criteria for success
- g. maintenance protocol
- h. appropriate home care regimens

XVI. Periodontal emergencies

- a. role of the dental hygienist in the recognition and treatment of periodontal emergencies
- b. etiology of periodontal abscesses

- c. signs, symptoms, and treatment considerations
    - i. gingival abscess
    - ii. periodontal abscess
    - iii. periapical abscess
  - d. distinguishing features of necrotizing ulcerative gingivitis.
  - e. pericoronitis.
  - f. treatment for necrotizing ulcerative gingivitis and oral herpetic lesions.
  - g. symptoms and oral lesions of acute herpetic gingivostomatitis
- XVII. Periodontal maintenance and prevention
- a. effectiveness of periodontal maintenance therapy
    - i. prevention of disease
    - ii. disease progression
    - iii. tooth loss
  - b. elements of a successful maintenance program
  - c. periodontal maintenance
    - i. Preservation of clinical attachment levels
    - ii. Maintenance of alveolar bone height
    - iii. Control of inflammation
    - iv. Evaluation and reinforcement of personal oral hygiene
    - v. Maintenance of optimal oral health
  - d. importance of patient compliance.
  - e. strategies to improve compliance
    - i. simplify
    - ii. accommodate
    - iii. remind patients of appointments
    - iv. keep records of compliance
    - v. inform
    - vi. provide positive reinforcement
    - vii. identify
  - f. principal aims and components of the maintenance appointment
    - i. To evaluate the stability of results after active therapy
    - ii. To remove bacterial plaque biofilm accumulations on the tooth surface thoroughly
    - iii. To eliminate all factors that favor the persistence of pathogenic bacteria
    - iv. To evaluate and reinforce plaque biofilm control
  - g. signs of recurrent periodontitis and assess the factors that contribute
  - h. causes of root surface caries
    - i. therapeutic approaches to prevent development
  - i. dentin sensitivity
    - i. theory
    - ii. causes
    - iii. management
- XVIII. Prognosis and results after periodontal therapy
- a. Prognosis
    - i. Overall prognosis
    - ii. Tooth prognosis
  - b. factors associated with overall prognosis.
  - c. factors associated with individual tooth prognosis.
  - d. expected outcomes of periodontal therapy

**INSTRUCTIONAL METHODS:**

- Lecture
- Power Points
- Class discussion
- Demonstration
- Visual aids - videos, models, slides
- Exams and quizzes
- Problem solving exercises

**INSTRUCTIONAL MATERIALS:**

Bowen, D. M., & Pieren, J. A. (2019). *Darby and Walsh Dental Hygiene: Theory and Practice*, (5th ed.). Elsevier Inc.

Perry, D., Beemsterboer, P., & Essex, G. (2013). *Periodontology for the Dental Hygienist* (4th ed.). Saunders.

**STUDENT REQUIREMENTS AND METHODS OF EVALUATION:**

The following grading scale will be used as a guide in determining the final grade for this course:

A= 92-100

B= 83-91

C= 75-82

D= 68-74

F= 67 and below

**OTHER REFERENCES**

Blue, C. M. (2017). *Darby's Comprehensive Review of Dental Hygiene* (8th ed.). Elsevier Inc.