



INSTRUCTIONAL PACKAGE

DHG 141
Periodontology

Effective Term
Fall 2024/Spring 2025/Summer 2025

INSTRUCTIONAL PACKAGE

Part I: Course Information

Effective Term: Fall 2024/Spring 2025/Summer 2025

COURSE PREFIX: DHG 141

COURSE TITLE: Periodontology

CONTACT HOURS: 2

CREDIT HOURS: 2

RATIONALE FOR THE COURSE:

This course provides the student with the foundation of periodontology using current evidence-based research. Students will learn to assess patient for presence or absence of periodontal disease using various assessment tools. Upon completion of this course students will utilize critical thinking skills that focuses on optimal patient care.

COURSE DESCRIPTION:

This course presents a study of the principles, etiologies, classifications, and treatments of periodontal disease with emphasis on the role of the dental hygienist.

PREREQUISITES/CO-REQUISITES:

DHG 151 Dental Hygiene Principles
DHG 243 Tooth Morphology and Histology
AHS 113 Head & Neck Anatomy

CO-REQUISITES:

DHG 165 Clinical Dental Hygiene I
DHG 121 Dental Radiology
DHG 143 Nutrition

REQUIRED MATERIALS:

Please visit the [BOOKSTORE](#) online site for most current textbook information. Use the direct link below to find textbooks.

Enter the semester, course prefix, number and section when prompted and you will be linked to the correct textbook.

TECHNICAL REQUIREMENTS:

Access to Desire2Learn (D2L), HGTC's learning management system (LMS) used for course materials.
Access to myHGTC portal for student self-services.
College email access – this is the college's primary official form of communication.

CLASSROOM ETIQUETTE:

As a matter of courtesy to other students and your professor, please turn off cell phones and other communication/entertainment devices before class begins. If you are monitoring for an emergency, please notify your professor prior to class and switch cell phone ringers to vibrate.

Refer to the HGTC Dental Sciences Program Manual for additional policies on classroom etiquette.

NETIQUETTE: is the term commonly used to refer to conventions adopted by Internet users on the web, mailing lists, public forums, and in live chat focused on online communications etiquette. For more information regarding Netiquette expectations for distance learning courses, please visit [Online Netiquette](#).

Part II: Student Learning Outcomes

Upon completion of DHG 141, the student will have a better understanding of the following:

1. Understand the structures and microscopic anatomy of the periodontium.
2. Identify the clinical and histological characteristics of the periodontium.
3. Compare clinical characteristics of health vs. diseased periodontium.
4. List and describe the American Academy of Periodontology classification system for periodontal disease.
5. Understand the role of oral biofilms as they relate to periodontal infection.
6. Describe the pathogenesis of periodontal disease.
7. Differentiate among localized, generalized, and marginal characteristics of periodontal inflammation.
8. Understand the etiology of periodontal disease.
9. Demonstrate periodontal assessment using radiographic interpretation and treatment planning.
10. Discuss the various surgical and nonsurgical treatments of periodontal disease.
11. Understand the correlation between tobacco use and periodontal disease.
12. Used evidence-based decision making when developing the best practices for periodontal care.
13. Learn techniques to educate patients about their periodontal disease and motivate them to improve long-term outcomes.
14. Understand the correlation between systemic diseases and periodontal disease.

COURSE LEARNING OUTCOMES and ASSESSMENTS*:

Module 1

Materials Covered: *Gehrig & Willmann*, Ch. 3 Overview of Diseases of the Periodontium, Ch. 4 Classification of Periodontal and Peri-Implant Diseases, and Ch. 5 Clinical Features of the Gingiva

Assessments: Quizzes, Test, Final Exam

Objectives:

Chapter 3

Define the term disease progression.

Define the term periodontal disease and contrast it with the term periodontitis.

Compare and contrast (1) the position of the junctional epithelium; (2) the characteristics of the epithelial-connective tissue junction; and (3) the position of the crest of the alveolar bone in health, gingivitis, and periodontitis.

Explain why there is a band of intact transseptal fibers even in the presence of severe bone loss.

Describe the progressive destruction of alveolar bone loss that occurs in periodontitis.

Describe the pathway of inflammation that occurs in horizontal bone loss and contrast it with the pathway of inflammation that occurs in vertical bone loss.

Compare and contrast the characteristics of gingival and periodontal pockets.

Be able to clinically identify the visible signs of periodontal health and periodontal disease.

In a clinical setting, for a patient with periodontal disease, measure the probing depth of the sulci (pockets) on the facial aspects of all teeth in one sextant of the mouth.

Using the information gathered visually and with the periodontal probe, explain whether this patient's disease is gingivitis or periodontitis.

Given a drawing of a periodontal pocket, determine whether the pocket illustrated is a suprabony or infrabony pocket.

Describe variables associated with periodontal disease that an epidemiologist might include in a research study.

Define prevalence and incidence as measurements of disease within a population. Describe how clinical dental hygiene practice can be affected by epidemiological research.

Chapter 4

Explain the rationale for a classification system for periodontal disease.

List the three major categories of periodontal diseases and conditions.

Explain why clinicians need to be familiar with terminology from the 1999 disease classification, such as chronic periodontitis and aggressive periodontitis.

Compare and contrast the 2017 and the 1999 classification systems.

List the four subcategories that fall under the Peri-Implant Diseases and Conditions category.

Chapter 5

Define periodontal health and be able to describe the clinical features that are consistent with periodontal health.

Compare and contrast the etiologic factors associated with dental biofilm-induced gingivitis and non-dental biofilm-induced gingival diseases and conditions.

List the conditions that are classified under the non-dental biofilm-induced gingival diseases and conditions category.

Describe the differences between an intact periodontium and a reduced periodontium.
Differentiate between papillary gingivitis, marginal gingivitis, and diffuse gingivitis.
Describe the clinical signs which are characteristic of dental biofilm-induced gingivitis.
List the systemic factors that modify the host response to plaque biofilm and contribute to gingival inflammation.

Module 2

Materials Covered: *Gehrig & Willmann*, Ch. 6 Periodontal Health, Gingival Diseases and Conditions, Ch. 7 Periodontitis, Ch. 8 Other Conditions affecting the Periodontium, and Ch. 9 Peri-Implant Health & Diseases

Assessments: Quizzes, Test, Final Exam

Objectives:

Chapter 6

Describe the clinical signs and symptoms that are pathognomonic (def: specifically characteristic or indicative of a disease) of periodontitis.
Define the term clinical attachment loss and explain its significance in staging and grading periodontitis.
In the clinical setting, be able to explain to your patient the warning signs of periodontal disease and why these signs should not be ignored.
Describe the radiographic hallmarks of periodontitis.
Explain how disease severity and complexity of management play a role in determining the staging of periodontitis.
Explain the differences in criteria of direct evidence of disease progression versus indirect evidence of disease progression and be able to describe the roles each plays in periodontitis grading.
List the grade modifiers used to determine the grade of periodontitis.
Define the meaning of the descriptors recurrent and refractory as they pertain to periodontitis.

Chapter 7

Define the terms mucogingival, normal mucogingival condition, and mucogingival deformity and condition.
Explain the significance of periodontal biotype and be able to describe the distinguishing features of thin-scalloped biotype, thick-scalloped biotype, and thick-flat biotype.
Define the term gingival recession and explain what factors you need to take into consideration to determine if treatment is indicated.
Explain the Miller and Cairo classification systems used to classify gingival recession.

Chapter 8

Describe the components of a conventional dental implant and restoration.
Compare and contrast the periodontium of a natural tooth versus the peri-implant tissues that surround a dental implant.
Define the terms peri-implant health, peri-implant mucositis, and peri-implantitis and distinguish the key differences among them.
Define the terms osseointegration, biomechanical forces, and biomechanical overload as they apply to dental implants.
Describe an appropriate maintenance interval for a patient with dental implants.
In the clinical setting, select appropriate self-care aids for a patient with dental implants.

Chapter 9

Define the term acute periodontal disease and list the conditions that fall under this category.

Describe the general characteristics of each of the acute periodontal diseases discussed in this chapter.

Name and describe the three types of abscesses of the periodontium.

List the possible causes of abscesses of the periodontium.

Compare and contrast the periodontal and pulpal abscesses.

Outline the typical treatment steps for a gingival abscess, a periodontal abscess, and a pericoronal abscess.

Describe the possible outcomes of an untreated pericoronal abscess.

Describe the pathogenesis of an endodontic-periodontal lesion.

List the different categories of endodontic-periodontal lesions based on the signs and symptoms.

Describe the characteristics of necrotizing gingivitis, necrotizing periodontitis, and necrotizing stomatitis.

Outline the typical treatment steps for necrotizing gingivitis.

Compare and contrast the tissue destruction that occurs in necrotizing gingivitis and necrotizing periodontitis.

Compare and contrast the tissue destruction in periodontitis versus that seen in necrotizing periodontitis.

Describe the symptoms of primary herpetic gingivostomatitis.

List a step-by-step treatment plan to address a patient suffering from herpetic gingivostomatitis.

Module 3

Materials Covered: *Gehrig & Willmann*, Ch. 13 Oral Biofilms, Ch. 21 Clinical Periodontal Assessment, Ch. 20 Radiographic Analysis of the Periodontium

Assessments: Quizzes, Test, Final Exam

Objectives:

Chapter 13

Define the term host response and describe its primary function.

Describe the role the host immunoinflammatory response plays in the pathogenesis of periodontal disease.

Define the term biochemical mediator and list three of these mediators.

Describe the role of cytokines in the pathogenesis of periodontitis.

Describe the role of prostaglandins in the pathogenesis of periodontitis.

Describe the effect of matrix metalloproteinases (MMPs) on periodontal tissues.

Explain the phases of the bone remodeling cycle. Explain the significance of a balanced OPG-to-RANKL ratio.

Describe the link between periodontitis and RANKL-mediated bone resorption.

For each of the histologic stages of gingivitis and periodontitis listed below, name one change in the host immune response likely to be encountered: Bacterial accumulation phase, Early gingivitis phase, Established gingivitis phase, and Periodontitis phase.

Chapter 20

Describe the dental radiographic features of the healthy periodontium.

Describe early dental radiographic evidence of periodontal disease.

Name some techniques that can be employed with periodontal patients to obtain high-quality dental radiographs.

Explain the basic principles of the vertical bitewing technique.

Describe the limitations of dental radiographs that all clinicians should keep in mind when viewing radiographs.

Explain the difference between vertical and horizontal alveolar bone loss as seen on dental radiographs.

Given a selection of sample dental radiographs, apply the information from this chapter when analyzing those radiographs.

Chapter 21

List the three fundamental diagnostic questions used when assigning a periodontal diagnosis.

List the two fundamental diagnostic questions used when assigning a peri-implant diagnosis.

Explain how to arrive at appropriate answers to each of the fundamental diagnostic questions.

Explain the difference between the signs of a disease versus the symptoms of a disease.

List several overt and hidden signs of periodontal inflammation.

Define silent disease.

Describe what is meant by the term clinical attachment loss.

Describe the elements of a well-written diagnosis for periodontitis.

List the phases of treatment.

Explain why a patient's diagnosis and treatment plan may require modifications at a later point in time.

Module 4

Materials Covered: *Gehrig & Willmann*, Ch. 12 Basic Concepts of Immunity & Inflammation, Ch. 13 Host Immune Response to Plaque Biofilm, Ch. 14 Systemic Risk Factors, Ch. 16 Local Factors Contributing to Periodontal Disease

Assessments: Quizzes, Test, Final Exam

Objectives:

Chapter 12

Describe the function of the immune system.

Compare and contrast innate immunity and adaptive immunity.

Describe the role of polymorphonuclear leukocytes, macrophages, B-lymphocytes, plasma cells, T-lymphocytes, and NK (natural killer)-lymphocytes in the immune system.

Compare and contrast a macrophage and a monocyte. List the five classes of antibodies (immunoglobulins) and describe the functions of each antibody class.

Describe the three ways that antibodies participate in the host defense.

Describe the complement system and explain the role it plays in the immune response.

Describe the steps in the process of phagocytosis.

Give an example of a type of injury or infection that would result in inflammation in an individual's arm.

Describe and contrast the symptoms of inflammation that the individual would experience due to acute inflammation versus chronic inflammation.

Define inflammatory mediator and provide several examples of inflammatory mediators of importance in periodontitis.

Chapter 13

Define the term host response and describe its primary function.

Describe the role the host immunoinflammatory response plays in the pathogenesis of periodontal disease.

Define the term biochemical mediator and list three of these mediators.
Describe the role of cytokines in the pathogenesis of periodontitis.
Describe the role of prostaglandins in the pathogenesis of periodontitis.
Describe the effect of matrix metalloproteinases (MMPs) on periodontal tissues.
Explain the phases of the bone remodeling cycle. Explain the significance of a balanced OPG-to-RANKL ratio.
Describe the link between periodontitis and RANKL-mediated bone resorption.
For each of the histologic stages of gingivitis and periodontitis listed below, name one change in the host immune response likely to be encountered: Bacterial accumulation phase, Early gingivitis phase, Established gingivitis phase, and Periodontitis phase.

Chapter 14

Name several systemic diseases/conditions that may modify the host response to periodontal pathogens.
Engage other health professionals—appropriate to the specific care situation—in shared patient-centered problem-solving.
Place the interests of patients at the center of interprofessional health care delivery.
Recognize the importance of educating patients about the relationship between oral health and systemic diseases, states, or conditions (such as the link between diabetes mellitus and periodontitis).
Discuss the potential implications of these systemic conditions on the periodontium: uncontrolled diabetes, leukemia, and acquired immunodeficiency syndrome (AIDS).
Describe the significance of the AGE–RAGE interactions and its role in amplifying periodontal inflammation.
Discuss how hormone alterations may affect the periodontium.
Define the term osteoporosis and discuss the link between skeletal osteoporosis and alveolar bone loss in the jaw.
Discuss the implications of Down syndrome on the periodontium.
Name three medications that can cause gingival enlargement.
For a patient in your care with periodontal disease that is amplified by a systemic condition, explain to your clinical instructor the risk factors that may have contributed to the severity of your patient's periodontal disease.

Chapter 16

Describe how local factors contribute to the retention and accumulation of plaque biofilm.
Explain how a local contributing factor differs from a systemic contributing factor. Identify and describe the location, composition, modes of attachment, mechanisms of mineralization, and pathologic potential of supra- and subgingival calculus deposits.
Discuss how local contributing factors can lead to direct damage to the periodontium.
Explain the role of trauma from occlusion as a possible contributing factor in periodontal disease.

Module 5

Materials Covered: *Gehrig & Willmann*: Ch. 17 Tobacco, Smoking, and Periodontal Disease, Ch. 25 Nonsurgical Periodontal Therapy, Ch. 30 Periodontal Surgical Concepts

Assessments: Quizzes, Test, Final Exam

Objectives:

Chapter 17

Discuss the implications of smoking and use of other tobacco products on periodontal health status.
Describe the different categories of tobacco/nicotine delivery systems and provide examples of each.
Discuss the implications of smoking on the host response to periodontal disease.
Discuss the implications of cannabis on the host response to periodontal disease.
Discuss the effects of smoking on periodontal treatment outcomes.
Discuss current theories as to why smokers have more periodontal disease than nonsmokers.
Explain why tobacco cessation counseling is a valuable part of patient care in the dental setting.
Value the importance of providing smoking cessation counseling as a routine part of periodontal treatment.

Chapter 25

Define the term and list four goals of nonsurgical periodontal therapy.
Explain the role of interdisciplinary collaborative care in nonsurgical periodontal therapy.
Write a typical treatment plan for nonsurgical therapy of (1) a patient with dental biofilm-induced gingivitis and (2) a patient with generalized Stage I, Grade A periodontitis.
Describe the type of healing to be expected following instrumentation of root surfaces.
Explain strategies for managing dental hypersensitivity.
Explain why reevaluation is an important step during nonsurgical therapy.
List the steps a clinician should perform at the periodontal reevaluation appointment.
Discuss the rationale and indications for referring a patient to a periodontist.

Chapter 30

List the objectives of periodontal surgery.
Be able to distinguish the terms relative contraindications and absolute contraindications for periodontal surgery.
Define the terms repair, reattachment, new attachment, and regeneration.
Explain the difference between healing by primary intention and healing by secondary intention.
Explain the rationale, indications, and advantages of elevating a periodontal flap. Explain two methods for classifying periodontal flaps.
Describe two types of incisions used during periodontal flaps.
Describe healing following flap for access and open flap debridement.
Describe the typical outcomes for apically positioned flap with osseous surgery.
Define the terms ostectomy and osteoplasty.
Define the terms osteogenesis, osteoinductive, and osteoconductive.
Define the terms autograft, allograft, xenograft, and alloplast.
Name two types of materials available for bone replacement grafts.
Explain why a barrier membrane is used during guided tissue regeneration.
Define the term periodontal plastic surgery. List two types of crown lengthening surgeries.
List some disadvantages of gingivectomy.
Explain what is meant by biological enhancement of periodontal surgical outcomes.
Name two broad categories of materials used for suturing periodontal wounds.
Describe the interrupted interdental suture technique.
List the general steps for suture removal.
Describe the technique for periodontal dressing placement.
List general guidelines for periodontal dressing management.

Explain the important topics that should be covered in postsurgical instructions. List steps in a typical postsurgical visit.

****Students – please refer to the Instructor’s Course Information sheet for specific information on assessments and due dates.***

Part III: Grading and Assessment

EVALUATION OF REQUIRED COURSE MEASURES/ARTIFACTS*:

Students’ performance will be assessed, and the weight associated with the various measures/artifacts are listed below.

EVALUATION*

Tests (3)	78%
Final Exam	20%
Professionalism	2%
	<hr/>
	100%

****Students, for the specific number and type of evaluations, please refer to the Instructor’s Course Information Sheet.***

GRADING SYSTEM:

A=90-100

B=80-89

C=77-79

D=70-76

F=69 and below

Grades earned in courses impact academic progression and financial aid status. Before withdrawing from a course, be sure to talk with your instructor and financial aid counselor about the implications of that course of action. Ds, Fs, Ws, WFs and Is also negatively impact academic progression and financial aid status.

The Add/Drop Period is the first 5 days of the semester for **full term** classes. Add/Drop periods are shorter for accelerated format courses. Please refer to the [academic calendar](#) for deadlines for add/drop. You must attend at least one meeting of all your classes during that period. If you do not, you will be dropped from the course(s) and your Financial Aid will be reduced accordingly.

Part IV: Attendance

Horry-Georgetown Technical College maintains a general attendance policy requiring students to be present for a minimum of 80 percent (80%) of their classes in order to receive credit for any course.

Due to the varied nature of courses taught at the college, some faculty may require up to 90 percent (90%) attendance. Pursuant to 34 Code of Federal Regulations 228.22 - Return to Title IV Funds, once a student has missed over 20% of the course or has missed two (2) consecutive weeks, the faculty is obligated to withdraw the student and a student may not be permitted to reenroll. **Instructors define absentee limits for their class at the beginning of each term; please refer to the Instructor Course Information Sheet. Please refer to the Dental Sciences Policy Manual for more information.**

For online and hybrid courses, check your Instructor's Course Information Sheet for any required on-site meeting times. Please note, instructors may require tests to be taken at approved testing sites, and if you use a testing center other than those provided by HGTC, the center may charge a fee for its services.

Part V: Student Resources



THE STUDENT SUCCESS AND TUTORING CENTER (SSTC):

The SSTC offers to all students the following **free** resources:

1. **Academic tutors** for most subject areas, **Writing Center support**, and **college success skills**.
2. Online **tutoring** and academic support resources.
3. Professional and interpersonal communication **coaching** in the EPIC Labs.

Visit the [Student Success & Tutoring Center](#) website for more information. To schedule tutoring, contact the SSTC at sstc@hgtc.edu or self-schedule in the Penji iOS/Android app or at www.penjiapp.com. Email sstc@hgtc.edu or call SSTC Conway, 349-7872; SSTC Grand Strand, 477-2113; and SSTC Georgetown, 520-1455, or go to the [Online Resource Center](#) to access on-demand resources.



STUDENT INFORMATION CENTER: TECH Central

TECH Central offers to all students the following **free** resources:

1. **Getting around HGTC**: General information and guidance for enrollment, financial aid, registration, and payment plan support!
2. Use the [Online Resource Center \(ORC\)](#) including Office 365 support, password resets, and username information.

3. **In-person workshops, online tutorials and more services** are available in Desire2Learn, Student Portal, Degree Works, and Office 365.
4. **Chat with our staff on TECH Talk**, our live chat service. TECH Talk can be accessed on the student portal and on TECH Central's website, or by texting questions to (843) 375-8552.

HGTC LIBRARY:

Each campus location has a library where HGTC students, faculty, and staff may check out materials with their HGTC ID. All three HGTC campus libraries are equipped with computers to support academic research and related school work; printing is available as well. Visit the [Library](#) website for more information or call (843) 349-5268.

STUDENT TESTING:

Testing in an **online/hybrid** course and in **make-up exam** situations may be accomplished in a variety of ways:

- Test administered within D2L.
- Test administered in writing on paper.
- Test administered through Publisher Platforms (which may have a fee associated with the usage)

Furthermore, tests may have time limits and/or require a proctor.

Proctoring can be accomplished either face-to-face at an approved site or online through our online proctoring service. To find out more about proctoring services, please visit the [Online Testing](#) section of the HGTC's Testing Center webpage.

The **Instructor Course Information Sheet** will have more details on test requirements for your course.

DISABILITY SERVICES:

HGTC is committed to providing an accessible environment for students with disabilities. Inquiries may be directed to HGTC's [Accessibility and Disability Service webpage](#). The Accessibility and Disability staff will review documentation of the student's disability and, in a confidential setting with the student, develop an educational accommodation plan.

Note: It is the student's responsibility to self-identify as needing accommodations and to provide acceptable documentation. After a student has self-identified and submitted documentation of a disability, accommodations may be determined, accepted, and provided.

STATEMENT OF EQUAL OPPORTUNITY/NON-DISCRIMINATION STATEMENT:

Horry-Georgetown Technical College shall not discriminate in employment or personnel decisions or in student admissions or in student decisions, or in all other segments of the College community on the basis of race, color, sex, national or ethnic origin, age, religion,

disability, marital or family status, veteran status, political ideas, sexual orientation, gender identity, or pregnancy, childbirth, or related medical conditions, including, but not limited to, lactation, in the educational programs and activities which it operates, and the college is prohibited from discrimination in such manner by applicable laws.

TITLE IX REQUIREMENTS:

Title IX of the Education Amendments of 1972 protects students, employees, applicants for admission and employment, and other persons from all forms of sex discrimination.

HGTC prohibits the offenses of domestic violence, dating violence, sexual assault, and stalking and will provide students, faculty, and staff with necessary information regarding prevention, policies, procedures, and resources.

Any student, or other member of the college community, who believes that they have been a victim of sexual harassment, domestic violence, dating violence, sexual assault, or stalking may file a report with the college's Title IX Coordinator or campus law enforcement*.

*Faculty and Staff are required to report these incidents to the Title IX Coordinator when involving students. The only HGTC employees exempt from mandatory reporting are licensed mental health professionals (only as part of their job description such as counseling services).

All inquiries regarding the federal laws as they relate to discrimination on the basis of sex may be directed to Tamatha Sells, Title IX Coordinator, Horry-Georgetown Technical College, Building 1100C, Room 107B, 2050 Hwy 501 E, PO Box 261966, Conway, SC 29528-6066, 843-349-5218, tamatha.sells@hgtc.edu.

OTHER INQUIRIES REGARDING THE NON-DISCRIMINATION POLICIES:

Other employee and applicant inquiries concerning the federal laws and their application to the College may be directed to Jacquelyne Synder, Vice President, Human Resources and Employee Relations & the College's Affirmative Action/Equal Opportunity Officer, Horry-Georgetown Technical College, Building 200C, Room 205B, 2050 Hwy 501 E, PO Box 261966, Conway, SC 29528-6066, 843-349-5212, jacquelyne.snyder@hgtc.edu.

Other student and prospective student inquiries concerning the federal laws and their application to the College or any student decision may be directed to Dr. Melissa Batten, Vice President, Student Affairs, Section 504 & Title II Coordinator Horry-Georgetown Technical College, Building 1100C, Room 107A, 2050 Hwy 501 E, PO Box 261966, Conway, SC 29528-6066, 843-349-5228, Melissa.Batten@hgtc.edu.