



Course Number and Title: DHY 141 Oral Radiography

Campus Location:

Dover, Wilmington

Effective Date:

2018-51

Prerequisite:

DHY 133, SSC 100 or concurrent

Co-Requisites:

none

Course Credits and Hours:

3.00 credits

2.00 lecture hours/week

2.00 lab hours/week

Course Description:

This course introduces the principles, theories, and techniques of dental oral radiography. Students practice exposing, mounting, and evaluating dental radiographs for the development of clinical radiographic skills. The paralleling technique using digital radiography is stressed.

Required Text(s):

Obtain current textbook information by viewing the [campus bookstore - https://www.dtcc.edu/bookstores](https://www.dtcc.edu/bookstores) online or visit a campus bookstore.

Check your course schedule for the course number and section.

Additional Materials:

Rinn XCP-BAI instrument kit (included in first year dental hygiene kit)

Dental Hygiene Program Policy and Procedures Manual

Allied Health/Science Department Program Student Policy Manual

Schedule Type:

Classroom Course

Disclaimer:

None

Core Course Performance Objectives (CCPOs):

1. Discuss the fundamentals of oral radiography: radiation history, physics, and characteristics. (CCC 1, 2, 4, 5, 6; PGC 1, 3, 6)
2. Discuss radiation biology and protection. (CCC 1, 2, 4, 5, 6; PGC 1, 3, 5, 6)
3. Describe the equipment, techniques, and types of radiographic images used in oral radiography. (CCC: 1, 2, 4, 5, 6; PGC 1, 6)
4. Demonstrate the proper technique for exposing and mounting digital radiographs/images. (CCC: 1, 2, 3, 4, 5, 6; PGC 1, 2, 3, 4, 5, 6)
5. Assess dental radiographs/images in terms of diagnostic quality and findings. (CCC 1, 2, 3, 4, 5, 6; PGC 1, 4, 5, 6)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

Measurable Performance Objectives (MPOs):

Upon completion of this course, the student will:

1. Discuss the fundamentals of oral radiography: radiation history, physics, and characteristics.
 1. Describe the formation of the latent image.
 2. List the parts of the x-ray tube and their respective functions.
 3. Discuss the production of x-radiation.
 4. Discuss the properties of radiation.
 5. Discuss the relationship among milliamperage, kilovoltage, and exposure 2.1 time, and relate these to processing and exposure techniques.
 6. Discuss the relationship among contrast, detail, and density, and relate these principles to processing and exposure techniques.
 7. Recognize the pioneers in dental x-radiation and their contributions and discoveries.
 8. Define radiographic terminology.
2. Discuss radiation biology and protection.
 1. Explain the effects of radiation on living tissue.
 2. Discuss radiation exposure guidelines, equipment, and techniques for patient and operator protection.
 3. Identify the patient selection criteria for prescribing appropriate dental radiographs.
 4. Describe proper documentation of radiation exposure in patient records.
3. Describe the equipment, techniques, and types of radiographic images used in oral radiography.
 1. Explain the principles, the advantages, and limitations of the paralleling technique.
 2. Discuss the proper storage, maintenance, and use of radiographic equipment and supplies.
 3. State the guidelines for receptor placement with paralleling technique for bite-wings and periapicals.
 4. Describe the indications for taking bite-wing, periapical, and occlusal radiographs.
4. Demonstrate the proper technique for exposing and mounting dental radiographs/images.
 1. Demonstrate the proper storage, maintenance, and use of radiographic equipment and supplies.
 2. Apply the paralleling technique when exposing digital radiographic images.
 3. Demonstrate proper technique in mounting digital radiographic images.
 4. Employ safe radiation practices and infection control procedures when exposing digital radiographic images.
 5. Demonstrate appropriate patient communication and management skills during radiographic exposure.
 6. Summarize information regarding radiographic exposure in the patient record.
 7. Employ the techniques for taking occlusal radiographs on the dental x-ray trainer (DXTTR).
5. Assess dental radiographs/images in terms of diagnostic quality and findings.
 1. Identify normal anatomic landmarks on radiographic images.
 2. Evaluate radiographic images for exposure, technique, and mounting errors.
 3. Identify restorations, dental materials, and foreign objects on radiographic images.
 4. Interpret radiographic images for normal variants, dental caries, periodontal disease, periapical lesions, and other pathologic conditions.

Evaluation Criteria/Policies:

Students must demonstrate proficiency on all CCPOs at a minimal 75 percent level to successfully complete the course. The grade will be determined using the Delaware Tech grading system:

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|----|---|-----|---|---|
| 92 | - | 100 | = | A |
| 83 | - | 91 | = | B |
| 75 | - | 82 | = | C |
| 0 | - | 74 | = | F |

Students should refer to the [Student Handbook - https://www.dtcc.edu/handbook](https://www.dtcc.edu/handbook) for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

Core Curriculum Competencies (CCCs are the competencies every graduate will develop):

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):

1. Collect and analyze baseline data in a critical and scientific manner regarding the patient's health status to determine dental hygiene treatment needs.
2. Utilizing professional communication skills and behaviors, initiate and responsibly advocate health care promotion and disease prevention for diverse populations.
3. Provide dental hygiene care in a safe manner.
4. Utilizing self-assessment skills, evaluate clinical performance and the effectiveness of dental hygiene treatment.
5. Accurately document information related to dental hygiene care through proper record keeping.
6. Recognize and manage the professional and ethical issues of dental hygiene practice in a dynamic environment.

Disabilities Support Statement:

The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the [disabilities services - https://www.dtcc.edu/disabilitysupport](https://www.dtcc.edu/disabilitysupport) web page or visit the campus Advising Center.