

DHY 102 Dental Radiology

Course Abstract

If you need accommodations due to a disability, contact Disability Services in Edison Hall Room 100, 732.906.2546.

To foster a productive learning environment, the College requires that all students adhere to the Code of Student Conduct which is published in the college catalog and website.

Course ID and Name: DHY 102 Dental Radiology

Department: Dental Hygiene

Course Instructor: Sally Elkhalfa, RDH, BDS, M.Ed.

Prerequisites: None

Course Description:

This course is designed to prepare students to expose radiographs as part of patient dental treatment. Topics include the fundamentals of dental radiology including the characteristics, production and utilization of x-rays in producing diagnostic radiographic images, biologic effects of radiation, radiation safety and protection, intra- and extra-oral exposure techniques, patient management and radiograph interpretation. The laboratory component includes all aspects of exposure, processing, interpretation and mounting of intra-oral dental radiographs. All radiographic exposures are made using manikins.

General Education Status:

Credits: 3 **Lecture Hours:** 2 **Lab Hours:** 2 **Practicum Hours:** 0 **Recitation Hours:** 0

Learning Outcomes:

Upon successful completion of the course, students will be able to:

1. Apply knowledge of radiation physics, biology and aseptic technique for patient and operator protection. **C1, C2, C4**
2. Describe the physics of x-ray generation and related equipment in the production of dental radiation. **C4**
3. Discuss factors related to image production on a dental radiographic film. **C4**
4. Apply knowledge of intraoral radiographic techniques, film placement, patient positioning, radiation safety, exposure factors and processing techniques to produce diagnostically acceptable radiographs on manikins. **C1, C2, C4, C7**
5. Identify anatomical landmarks visible on dental radiographs and accurately mount intraoral radiographs. **C4, C9**
6. Identify common exposure and processing errors on dental radiographs. **C4, C5**

Course Objectives:

Upon completion of the lecture, laboratory, reading assignments and learning experiences, the student will be able to:

1. State present radiographic services rendered by the dental hygienist in office practice. **C1, C2**
2. Describe the physics of radiation as it pertains to dentistry. **C4**
3. Discuss the components, functions and care of radiographic facilities including the dental x-ray unit and darkroom. **C4**
4. Explain the steps involved in the generation of x-rays. **C4**
5. Discuss the necessary steps involved in the production of a radiographic image. **C4**
6. Interpret data indicating the relationship of scientific principles to exposure of radiographs. **C4**
7. Identify types of film and film holders utilized in dental radiography. **C4**
8. Discuss the composition of an intraoral film in the production of an acceptable radiograph. **C4**
9. Compare and contrast different radiographic techniques utilized in exposing intraoral dental radiographs. **C4**
10. Explain chemical principles as they relate to the processing of dental radiographs. **C4**
11. Describe quality assurance tests utilized in dental radiography. **C4, C7**
12. State the criteria for an acceptable radiograph. **C4, C7**
13. Identify common processing and technique errors on radiographs and their correction. **C4, C5**
14. Identify anatomical landmarks visible on radiographs. **C4, C5**
15. Describe patient management techniques for patients of different ages, oral conditions and specific concerns while exposing dental radiographs. **C3, C3, C10, HP5**
16. Explain the use of radiographs in patient education. **C8**
17. Discuss answers to questions patients frequently ask about radiographs and radiation. **C1, C2, C3, C8, C10**
18. Identify legal considerations for radiographic equipment, patient exposure and record keeping. **C1, C2, C9**
19. Identify the purpose, uses, equipment and image production of panoramic radiographs. **C3, PC2**
20. Identify various types of extra-oral radiographs and the indications for each. **C3, C4**
21. Demonstrate the ability to accurately interpret dental intra-oral and panoramic radiographs. **C3, PC2, HP5**
22. Discuss the fundamentals of digital radiography. **C4**
23. List and describe the equipment used in digital radiography. **C4**