

ADED140C : Dental Radiology for Dental Hygiene

Provides the foundational knowledge and skills needed for the appropriate use of diagnostic imaging in a dental practice, including digital radiography, radiation biology and protection, quality assurance procedures, radiation physics, radiographic interpretation, radiographic landmarks, and ethics. Emphasis is placed on patient and operator protection and equipment function. Lectures and laboratory demonstrations are coordinated with laboratory practice on a manikin to develop mastery of digital dental radiographic techniques. Patients will be scheduled near the end of the term when students exhibit acceptable radiographic skills and basic principles of radiographic interpretation.

Credits 3

Lab/Practicum/Clinical Hours 3

Lecture Hours 2

Prerequisites

Students are required to pass prerequisite courses with a grade of C or higher. Exceptions apply; please consult your department chair.

ADED134C

BIOL195C

CHEM125C

Corequisite Courses

ADED100C

ADED113C

Learning Outcomes

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The dental hygiene student will be able to explain the principles of radiation as it relates to physics, biology, hygiene, and safety.

1. Demonstrate and value the importance of proper asepsis protocol.
2. Describe the current federal and state guidelines regarding radiation safety and protection.
3. List and describe the regulatory agencies involved with radiation.
4. Value the importance of radiation safety for self and patient.
5. Describe the production of x-rays.
6. Describe the biological effects of radiation
7. Discuss the history of radiation.
8. Identify and explain the function of the components of the x-ray unit

The dental hygiene student will be able to produce and interpret diagnostically acceptable radiographs utilizing various radiographic techniques and apply the principles of quality assurance and ethics in dental radiography.

1. Expose radiographs using paralleling and bisecting techniques.
2. Identify radiographic exposure and technique errors.
3. Describe proper radiographic processing.
4. Demonstrate correct radiographic film mounting technique.
5. Discuss techniques for managing patients with variations of anatomy or special challenges, such as, strong gag reflex, tori, etc.
6. Discuss the purpose and importance of a quality assurance program.
7. Assess the need for radiographs based on patient's history and exam while using the ADA guidelines.
8. Value the need to utilize radiographs in assessment, planning and implementation of the dental hygiene care plan.
9. List the advantages and disadvantages of digital radiography.
10. Describe the purpose and use of intraoral radiography, occlusal radiographs, extraoral projections, panoramic projections.
11. Discuss the factors affecting radiographic image.

3. The dental hygiene student will be able to describe the fundamentals of oral radiographic techniques and interpretation

1. Describe the purpose and use of localization techniques

2. List the advantages and disadvantages of cone beam volume computed technology, computed assisted technology, and magnetic resonance imaging.
3. Identify normal radiographic anatomy, common restorative materials, calculus, bone loss, caries, radiolucent pathology and radiopaque pathology on radiographs.
4. Describe the ideal pre-radiation treatment, possible oral manifestations and treatment for patients with head and neck cancer.