

**NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY  
DNA 134 - DENTAL RADIOLOGY AND PRACTICUM I (3 CRS.)**

**Course Description**

Studies radiation physics, biology, safety, and exposure techniques for intra- and extra-oral radiographic surveys. Laboratory provides practice in exposure, processing methods, mounting, and interpretation of normal findings. Lecture 2 hours per week. Laboratory 3 hours per week.

**General Course Purpose**

This course teaches students the physics of dental radiation and safety, equipment operation, cone placement for the parallel and bisection techniques, panoramic exposures, mounting and film processing. Laboratory sessions emphasize the placement, exposing, processing, mounting, and interpretation of dental radiographs.

**Course Prerequisites/Corequisites**

Prerequisites: ENG 111, NAS 159, and SDV 101

Corequisites: DNA 100, DNA 108, DNA 110, DNA 113, and PSY 200

**Course Objectives**

Upon completing the course, the student will be able to:

- Describe the principles of x-ray physics and x-ray production
- Describe the characteristics and effects of x-ray radiation
- Describe the methods of radiation exposure and importance of patient education
- Describe the components, types, sizes, speeds and uses of dental x-ray films
- Describe the methods and chemicals used for processing dental x-ray films
- Describe the importance of quality assurance and quality control
- Describe and demonstrate the ability to identify structures of the maxillae and mandible on a radiograph
- Describe and demonstrate the ability to identify anomalies and pathology on a radiograph
- Describe and demonstrate the ability to recognize types of radiographic errors
- Describe and demonstrate positioning of the patient, x-ray film and x-ray tube head for the paralleling and bisecting angle techniques
- Demonstrate the ability to utilize the paralleling and bisecting angle techniques for exposing radiographs
- Demonstrate the ability to place, expose, process, mount and interpret radiographs
- Demonstrate the ability to expose a full mouth series, bite-wing series and an occlusal survey on a manikin
- Demonstrate the ability to a full mouth series on adult patients
- Demonstrate the ability to expose a bite-wing series and panoramic radiograph on a pediatric patient
- Demonstrate the ability to expose a panoramic radiograph on an edentulous or partially edentulous patient
- Describe the importance for practicing proper methods of infection control when exposing and processing radiographs

**Major Topics To Be Included**

- Principles of X-Ray Physics and Production
- Characteristics and Effects of X-Ray Radiation
- Methods of Radiation Protection and Patient Education
- Types and Processing of Dental X-Ray Films
- Quality Assurance and Quality Control
- Infection Control Methods in Dental Radiography
- Intraoral Radiographic Anatomy
- Radiographic Anomalies and Pathology
- Radiographic Errors
- Intraoral and Extraoral Radiography
- Radiography for the Pediatric and Edentulous Patient
- Advances in Dental Radiography