

**J. Sargeant Reynolds Community College  
Course Content Summary**

**Course Prefix and Number: DNA 134**

**Credits: 3**

**Course Title: Dental Radiology and Practicum**

**Course Description (including lecture hours, lab hours, total contacts)**

Teaches the physics of dental radiation and safety, equipment operation, cone placement for the parallel and bisection techniques, panoramic exposures, mounting and film processing. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

**General Course Purpose**

DNA 134 will prepare the student to place and expose radiographs. Students will be state certified once completing the course with a passing grade.

**Course Prerequisites/Corequisites**

Prerequisites or Corequisites: DNA 110 and DNA 140

**Course Objectives**

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

- a. Explain the history of radiation
- b. List the properties of radiation
- c. Explain the biological effects of radiation exposure
- d. Identify the components of an x-ray unit and explain the function of each unit
- e. Describe radiation safety precautions
- f. Explain how an x-ray is produced
- g. Describe the composition, sizes, types, and storage of dental x-ray film
- h. Explain how an x-ray is produced
- i. Identify means of producing quality radiograph on a variety of patients
- j. Explain bisecting and paralleling techniques
- k. List common exposure errors
- l. Describe the steps in the processing techniques, composition of the solutions and storage of the final radiographs
- m. Explain mounting procedures
- n. Identify extraoral films and describe exposing techniques
- o. Identify normal and abnormal radiographic landmarks
- p. List standardized procedures and state policies that offices follow to ensure quality radiographs
- q. Identify imaging systems used for dental purposes

**Major Topics to be Included**

- a. Dental Radiography Physics
- b. Film Processing/Quality Assurance
- c. X-ray Properties and Generation
- d. Image Characteristics
- e. Technique and Troubleshooting
- f. Panoramic Radiographs
- g. Patient Management
- h. Film Mounting
- i. Radiation Biology and Protection
- j. Film Interpretation Normal vs. Abnormal

**Effective Date of Course Content Summary (Month, Date Year):** February 12, 2009