J. Sargeant Reynolds Community College
Course Content Summary

Course Prefix and Number: DNA 134 **Credits:** 3

Course Title: Dental Radiology and Practicum

Course Description: Teaches the physics of dental radiation and safety, equipment operation, cone placement for the parallel and bisection techniques, panoramic exposures, mounting, and film processing. Prerequisites: DNA 100, DNA 103, DNA 108, DNA 109, DNA 113, and DNA 120. Co-requisite: DNA 110. Students must be at least 18 years-old to enroll in course. 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 and Co-requisites:
Prerequisites: DNA 100, DNA 103, DNA 108, DNA 109, DNA 113, and DNA 120
Co-requisite: DNA 110

Student Learning Outcomes:
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; and
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

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