



COMMON COURSE OUTLINE: Course discipline/number/title: DS 1300: Dental Radiology

A. CATALOG DESCRIPTION

1. Credits: 3

2. Hours/Week: 2 lecture and 2 hours lab

3. Prerequisites (Course discipline/number): *All Students:* Passed Department of Human Services Background Study. *Dental Assistant Diploma Program Students:* "C" in Fall Semester Dental Assisting courses and current Certification in American Red Cross Adult, Infant, Child CPR and First Aid. *Dental Assistant Certificate students:* "C" or better in DA 1225 and current Certification in American Red Cross Adult, Infant, Child CPR and First Aid. *Dental Hygiene students:* DH 1510, 1511 and 1512.

4. Co-requisites (Course discipline/number): None

5. MnTC Goals (if any): NA

This course content includes theoretical concepts of the characteristics of radiation, effects of radiation exposure, dental radiographic anatomy and pathology, radiation biology and protection, dental x-ray film processing, and intraoral radiographic procedures. The course content for Dental Radiology is part of the Expanded Functions curriculum.

B. DATE LAST REVISED (Month, year): May, 1997

C. OUTLINE OF MAJOR CONTENT AREAS:

1. History or Radiology
2. Radiology Safety and Infection Control
3. Paralleling Technique/Film Types/Areas To Be Recorded
4. Characteristics of X-rays, The X-ray Machine, and X-ray Production
5. Imaging Characteristics
6. Film evaluation: Exposure and Processing Errors
7. Normal Anatomy and Mounting
8. Film Composition, Film processing and Quality
9. Radiation Biology and Protection
10. Accessory Radiographic Techniques
11. Extraoral Radiographic Techniques
12. Localization Techniques
13. Radiographic Interpretation and Pathology

D. LEARNING OUTCOMES (GENERAL): The student will be able to:

1. Retrace the history or radiography.
2. Define radiographic terms.
3. Describe intraoral films.
4. Identify anatomical structures which should be recorded on each film.
5. Discuss the modern uses of radiography.
6. Describe the characteristics of radiation.
7. Describe the function of the individual parts of the x-ray machine.
8. Demonstrate radiological safety/projection procedures.
9. Describe the factors which affect the x-ray beam and the image it produces.
10. Discuss how the radiographic is recorded on the z-ray film.
11. Differentiate among factors which can influence the quality of a radiographic image.
12. Prepare/operate the x-ray machine safely.
13. Demonstrate/expose using the intra-oral paralleling technique.
14. Describe the intra-oral bisecting technique.
15. Demonstrate/expose using the intra-oral bitewing technique.
16. Describe the principles of radiation biology.
17. Practice methods to minimize occupational exposure to radiation.
18. Practice methods to minimize exposure to the dental patient.
19. Describe risk versus benefits of dental radiation.
20. Demonstrate proper mounting of dental radiographs.
21. Describe the necessary components of an adequate darkroom.



- D. LEARNING OUTCOMES (GENERAL): Continued. . .** The student will be able to:
22. Demonstrate proper technique for processing dental radiographs.
 23. Evaluate dental radiographs for errors and artifacts.
 24. Identify normal anatomical landmarks on dental radiographs.
 25. Identify pathology on dental radiographs.
 26. Apply principles of infection control in dental radiology.
 27. Complete radiographic documentation.
 28. Maintain x-ray equipment.
- E. LEARNING OUTCOMES (MNTC):** NA
- F. METHODS FOR EVALUATION OF STUDENT LEARNING:**
1. Weekly quizzes
 2. Evaluation of radiographs
 3. Evaluation of radiographic technique
 4. Final exam
- G. SPECIAL INFORMATION (if any):**
1. Lab Fee
 2. Passes background check
 3. RCTC Dental Assistant Uniform (for Dental Assistants)
 4. Comply with dental infection control, protocols and hazard communication protocols