Dental Radiography

Course Syllabus

Course Number: THRP-0285C  
OHLAP Credit: No

OCAS Code: None  
Course Length: 14 Hours  
Career Cluster: Health Science  
Career Pathway: Therapeutic Sciences  
Career Major(s): Professional Dental Assistant, Dental Assistant

Pre-requisite(s): The content of this course prepares the student to participate in laboratory and clinical experiences necessary to develop the skills to become a dental assistant. The course provides classroom and laboratory instruction.


Optional Online Components: 
http://evolve.elsevier.com/staticPages/s_index.html, Interactive Web Site, Sanders Elsevier 
http://tulsatech.blackboard.com/

Optional Software: 
Eaglesoft 17.0 Dental Practice Management Software 

Course Objectives: A. Dental Radiography

1. State the principles of radiation safety as applied to dental radiography.
2. Describe the ALARA (As Low as Reasonably Achievable) principle, plus the responsibilities of the dentist and dental assistant as they relate to dental radiography.
3. Discuss the biological and cumulative effects of x-radiation on human tissues.
4. Define the maximum permissible dose (MPD) of ionizing radiation to occupational workers and explain the necessity of monitoring of dental personnel regarding their exposure to x-radiation.
5. Explain and discuss the hazards of primary, secondary, and scatter radiation.
6. Describe the need for operatory shielding, patient protection and operator protection, as related to exposure to radiation.
7. Name and describe the major components of the dental x-ray unit.
8. Describe these variables that are applied in dental radiographic technique: milliamperage, kilovoltage, exposure time, and length of the position indicator device (PID).
9. Explain the need for last speed film ad name the sizes and composition of film used for intraoral dental radiographs.
10. List and discuss the properties of exposed and processed dental radiographic film and the criteria related to diagnostic-quality radiographs.
11. Define vertical and horizontal angulation as they are related to producing dental radiographs.
12. List the essential anatomic landmarks as applied to intraoral dental radiography.
13. Use radiation safety precaution.
16. Evaluate radiographs for density, contrast, detail, and definition.
17. Describe the use of the paralleling technique in dental radiography.
18. State the role of quality assurance in dental radiography.
19. Describe the characteristics and uses of periapical, bite-wing, occlusal, and panoramic dental radiographs.
20. Describe the maxillary and mandibular anatomic landmarks that are evident in radiographs of these areas.
21. Identify from a group of radiographs the causes of the following errors in exposing and processing dental radiographs: foreshorted image, elongated image, overlapping of the image, cone cutting, bending of film, lightness of radiograph, darkness of radiograph, fogging of film, saliva stain, double exposure, herringbone effect, superimposed objects, spots or streaks, static electricity, and scratches on the film.
22. Demonstrate seating ad preparing a patient for dental radiography, including observing the universal precaution infection control steps.
23. Demonstrate, on a dental radiography manikin, exposure of a complete series of dental radiographs using the paralleling technique.
24. Demonstrate producing occlusal radiographs of the maxillary and mandibular dental arches on a dental radiograph manikin.
25. Develop and mount radiographs.
26. The student will demonstrate employability skills, including dependability, patient/client centered behavior, self-motivation-initiative, positive attitude, and adherence to policies.\(^1\)

\(^1\) ODCTE Objective
\(^2\) TTC required soft skills objective.
All unmarked objectives are TTC instructor developed.

**Teaching Methods:**
The class will primarily be taught by the lecture and demonstration method and supported by various media materials to address various learning styles. There will be question and answer sessions over material covered in lecture and media presentations. Supervised lab time is provided for students to complete required projects.

**Grading Procedures:**
1. Students are graded on theory and lab practice and performance.
2. The programs require courses to be passed at 70% or better.
3. Grading scale: A=90-100%, B=80-89%, C=70-79%, D=60-69%, F=50-59%.

**Description of Classroom, Laboratories, and Equipment:**
Tulsa Technology Center campuses are owned and operated by Tulsa Technology Center School District No. 18. All programs provide students the opportunity to work with professionally certified instructors in modern, well-equipped facilities.
The student may be eligible to take state, national or industry exam after completion of the program. Tulsa Tech students may be able to earn college credit based on their knowledge gained at Tech. The process of earning credit through Prior Learning Assessment (PLA) will be determined after completion with Tech and based on certification, credential or knowledge of the subject. See program counselor for additional information.

College Credit Eligibility: The student must maintain a grade point average of 3.0 or better.