UNIVERSITY OF ARKANSAS
PULASKI TECH

Assessment Report:
2019-2020:
DEN 1603 Dental Radiography I

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2. Date of submission: *October 1, 2020*

3. Is the assessment plan (*Check or highlight one*)

☐ an initial plan for the program

X a revision of an old plan

☐ unaltered from previous year

Course-Level Learning Outcomes-

1. What are the Course-Level Outcomes (CLOs)?

Dental Radiography I Course Level Outcomes

1. State the purpose of radiographs as related to diagnosis, treatment planning and other uses in the dental practice.
2. Select properties of radiation.
3. Discuss in writing or verbally, atomic structure to show an understanding of its contribution to x-ray production.
4. Differentiate between x-rays and other types of radiation.
5. Match parts of the x-ray machine to its function.
6. Select sources of energy for the production of x-rays from the dental x-ray machine.
7. Identify parts of the x-ray tube & their functions to the production of x-rays.
8. Distinguish between different types of x-rays produced by the x-ray tube.
9. Distinguish between quality and quantity, as it applies to the x-ray beam and production of radiographs, and demonstrate corrections as necessary to produce an acceptable diagnostic radiograph.
10. Select different stages of x-ray production as the dental x-ray machine is activated.
11. Make adjustments on the x-ray unit and components to demonstrate knowledge operation of the equipment necessary to produce a diagnostically acceptable radiograph.
12. List the purpose of radiation safety.
13. Select terms associated with radiation detection and measurement.
14. Identify human tissue and cells in descending order of most to least sensitive to ionizing radiation exposure.
15. Identify and demonstrate methods of protection for patient, operator and staff according to acceptable standards for radiation hygiene.
16. Identify legal aspects and laws that regulate the use of ionizing radiation.
17. Match film types that describe characteristics and properties of intraoral, extraoral and duplicating.
18. Identify various sizes of intraoral film and demonstrate the application of each type.
19. Discriminate between film requirements of full survey, including bitewings, for adult and children.
20. Identify film preparation and storage of exposed films before, during, and after the films are exposed.

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21. Identify terminology that best describes radiographic contrast, density, definition, detail and distortion.
22. Match darkroom equipment with its function.
23. Discriminate between the chemistry of developing and fixing solutions, also the function of each chemical.
24. Demonstrate the ability to process an exposed film of acceptable quality by the manual and automatic processing equipment.
25. Identify and label facial landmarks associated with x-ray exposure techniques.
26. Discriminate between the basic principle for producing a radiograph using the bisecting angle and paralleling technique.
27. Demonstrate vertical angulation with the PID directions beginning at 0 degrees for the maxillary and mandibular arches.
28. Demonstrate horizontal angulation with the PID directed to avoid overlapping of the images.
29. Identify common errors of exposing intraoral radiographs, the causes, and the necessary corrections to produce a diagnostically acceptable radiograph.
30. Identify the procedures, in proper sequence, necessary to prepare the patient for exposure of dental radiographs.
31. Given a list of fourteen (14) periapical and four (4) bitewing intraoral regions of the arches to produce a full survey; arrange each region in the recommended order of exposure.
32. Identify anatomical landmarks and restorative materials and designate as radiopaque or radiolucent appearance.
33. Demonstrate knowledge of sanitizing procedures for equipment, operator, and patient preparation before, during, and after exposures.
34. Select the proper size and type of films necessary for each radiographic assignment, also, film holding devices or equipment necessary to complete the assignment.
35. Identify occlusal films and various types and sizes of extraoral films, their uses, and equipment necessary for exposure and processing.
36. Demonstrate knowledge of different extraoral projections and their uses, necessary equipment, patient positioning techniques, and infection control practices for extraoral exposures.
37. Demonstrate film placement and exposure while applying the paralleling, bisecting angle and various accessory techniques.
38. Demonstrate film mounting, by the assigned technique, storage of exposed films and duplicating pre-exposed and processed films.
39. Discriminate between the two methods of mounting films of a full survey and identify the patient's right and left sides.
40. Critique for diagnostic value, all radiographs exposed and processed.
41. Obey strict principles of safety measures for the patient, operator and others in the area during exposures, also, school policy for exposing radiographs in the lab/pre-clinical setting.
42. Distinguish difference between two – dimensional and three – dimensional images through an extensive introduction of Cone Beam Computed Tomography (CBCT) including fundamentals, terminology, patient positioning factors, and indications for use.
43. Demonstrate the ability to acquire and capture/record radiographs utilizing the direct and indirect digital imaging techniques with digital sensor and phosphor plate technology.
44. Demonstrate the ability to acquire and capture/record direct/indirect digital radiographs utilizing the NOMAD hand-held x-ray system.

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45. Navigate through dental computer software and hardware utilized in direct and indirect digital imaging.

2. Which CLOs were addressed for this academic year? (2019-2020)

11. Make adjustments on the x-ray unit and components to demonstrate knowledge operation of the equipment necessary to produce a diagnostically acceptable radiograph.
43. Demonstrate the ability to acquire and capture/record radiographs utilizing the direct and indirect digital imaging techniques with digital sensor and phosphor plate technology.

11. Which CLOs are being addressed in your assessment plan next academic year? (2020-2021)

Type your response here.

38. Demonstrate film mounting, by the assigned technique, storage of exposed films and duplicating pre-exposed and processed films.
39. Discriminate between the two methods of mounting films of a full survey and identify the patient's right and left sides.
40. Critique for diagnostic value, all radiographs exposed and processed.

12. Explain the assessment cycle.

Didactic exams are performed with paper and pencil or via technology. Competency evaluations, which evaluate practical skills, are performed after lab practice, peer review, and critique from (an) instructor(s). Since our program has just started documenting our course learning outcomes, we look towards adding new data each year.

13. What are the assessment methods? Are they direct or indirect?

All assessment methods are direct and require satisfactory performance in order to move forward without remediation. Competencies are mandatory and require 70% passing score to move forward in the program. Written exams test information from the didactic section of the course. All didactic material is covered before exposure of radiographs. Written assignments, such as workbook and review assignments, evaluate and reinforce learning outside of written exams, and radiographic mounting assignments in lab reinforce

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knowledge of dental anatomy, recognition of normal/abnormal dental landmarks and diseases.

14. What are the assessment goal(s)?

1. Graduates will perform dental assisting responsibilities and related office and laboratory procedures under the direct supervision of the dentist.
2. Graduates will function as a valued team member, exhibiting professionalism and ethics.
3. Graduates will demonstrate proficiency in dental assisting skills and competencies to meet registration requirement with the Arkansas State Board of Dental Examiners and qualify for the Dental Assisting National Board Exam.
4. At least 80% of students will be retained in the program for the second semester.
5. At least 85% of graduates will be employed in the dental field or continuing their education within six months of graduation.
6. At least 80% of graduates will report satisfaction with the instruction and overall program experiences.
7. Greater than 75% of employers of the program graduates will report satisfaction with clinical and academic skills.

15. What were the findings for this academic year? (2019-2020)

11. Make adjustments on the x-ray unit and components to demonstrate knowledge operation of the equipment necessary to produce a diagnostically acceptable radiograph**. Competency pass rate – 100%; Average score – 98%**

43. Demonstrate the ability to acquire and capture/record radiographs utilizing the direct and indirect digital imaging techniques with digital sensor and phosphor plate technology.

Competency Pass Rate (FMX 1) – 94.4%; Average Score – 81.4%
Course pass rate – 100% Average Grade – 85.8%

12. What is your analysis of the findings?

Students are gaining both the education and skills in the program to perform in their roles as dental assistants and meeting the CLOs related to dental radiography.

13. What is the action plan for the next academic year? (2020-2021) Explain.

Based upon feedback from students and the dental community and standard guidelines set forth by CODA, CLOs will be chosen to assess where the greatest need is founded. For example, we are currently shifting focus from manual radiographs to indirect and direct digital dental radiography.

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