

1 21 NCAC 16H .0105 is adopted with changes as published in 37:16 NCR 1102-04 as follows:

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3 **21 NCAC 16H .0105 DENTAL RADIOLOGY COURSE AND EXAMINATION REQUIREMENTS**
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5 (a) The Board will recognize a dental radiology course meeting the requirements of this Rule and the course's final
6 examination as satisfying the dental radiology training and equivalency examination requirements set out in G.S. 90-
7 29(c)(12).

8 (b) For the Board to recognize a dental radiology course and its final examination:

9 (1) The course shall include at least 7 hours of didactic, lecture-based instruction and at least 14 hours
10 of laboratory instruction.

11 (2) The course curriculum shall include instruction and training in clinical dental radiology, in the
12 production and use of dental x-rays, and on digital x-ray equipment. The course shall enable the
13 student to:

14 (A) identify in sequence the steps necessary for operating dental x-ray equipment;

15 (B) identify the requirements of a diagnostic digital image;

16 (C) differentiate the effect of variations in amperage, kilo-voltage, distance, and exposure time
17 on the resulting digital images;

18 (D) identify the terms used to measure radiation;

19 (E) establish guidelines for maintaining radiation safety and the ALARA ("as low as
20 reasonably achievable") principle;

21 (F) follow principles of radiologic health practices and radiation biology;

22 (G) identify radiation safety techniques and monitoring devices;

23 (H) identify the parts and identification marks on dental x-ray sensors;

24 (I) identify and compare intraoral sensors according to size and customary usage;

25 (J) identify methods of sensor handling and storage;

26 (K) identify and perform in sequence the steps in processing digital images;

27 (L) differentiate between preliminary interpretation and diagnosis of the digital images;

28 (M) identify the anatomical landmarks of the face and skull;

29 (N) identify any dental radiograph according to its location in the maxilla or mandible, and
30 position it on a digital image mount;

31 (O) identify the types of radiographic errors caused by faulty exposure techniques;

32 (P) identify the types of radiographic errors caused by incorrect digital mount positioning and
33 angulation of the central ray;

34 (Q) identify the types of radiographic errors caused by faulty digital processing techniques;

35 (R) identify the conditions that cause digital images to be fogged;

36 (S) identify the advance preparations necessary before exposing digital images;

37 (T) carry out the task of digital image exposure to completion;

- 1 (U) use the paralleling technique to produce digital images of diagnostic quality addressing
2 contrast, density, and definition;
- 3 (V) explain the principles of digital imaging and quality assurance;
- 4 (W) identify errors when using digital imaging in technique and processing;
- 5 (X) explain the utilization of beam aligning devices; and
- 6 (Y) describe the use of hand-held radiation exposure devices following guidelines from the
7 Radiation Protection Section of the Department of Health and Human Services, Radiology
8 Compliance Branch ("Radiation Protection Section"), which are incorporated by reference,
9 including subsequent amendments and editions, and are available at no cost online at
10 www.ncradiation.net/Xray/dentdose.htm.
- 11 (3) The laboratory portion of the course shall have no more than six students per instructor, and shall
12 include practice on dental radiography manikins. Students shall not practice on peer students unless
13 the unit is turned off and all requirements of the Board's sterilization and infection control rule, 21
14 NCAC 16J .0103, are satisfied. Students shall be required to achieve a passing score of at least 80
15 percent on a written examination on radiation safety prior to taking radiographs.
- 16 (4) To complete the course, students shall be required to achieve a passing score of at least 80 percent
17 on a written examination upon completion of the didactic, lecture-based portion of the course ~~before~~
18 ~~beginning the laboratory portion,~~ and to achieve a passing score of at least 80 percent on a final
19 laboratory examination. The final laboratory examination shall be conducted on a ~~manikin.~~ manikin
20 and include completion of a full mouth series.
- 21 (5) The facility used as the training location for the course shall:
- 22 (A) assume all overhead costs involved in offering the course;
- 23 (B) comply with the Board's rules regarding sanitation, sterilization, and infection control set
24 out in 21 NCAC 16J, the applicable guidelines of the Radiation Protection Section, and the
25 OSHA guidelines and standards related to dentistry, which are incorporated by reference,
26 including subsequent amendments and editions, and are available at no cost online at
27 www.osha.gov/dentistry/standards;
- 28 (C) provide access to a room large enough to accommodate the number of participants for
29 lecture purposes;
- 30 (D) have the number of x-ray machines necessary based on the course curriculum and
31 enrollment to ensure there are no more than two students per machine; and
- 32 (E) have facilities for ~~use of photostimulable phosphor plates for indirect~~ digital radiography.
- 33 (6) The didactic and laboratory portions of the course shall be taught by:
- 34 (A) an instructor of dental radiography at an institution accredited by the Commission on
35 Dental Accreditation ("CODA"), a list of which is available at no cost at www.ada.org/coda
36 and is incorporated by reference, including subsequent amendments and editions; or

1 (B) an instructor who has taken and passed a radiology instructor's certification course taught
2 by an instructor of dental radiography at a CODA-accredited institution, and has completed
3 three hours of continuing education in the area of radiology every other year.

4 (7) The course sponsor shall provide students with all supplies.

5 (8) Course advertising shall comply with the Board's rules regarding advertisement of dental services
6 set out in 21 NCAC 16P.

7 (c) A course sponsor seeking Board recognition of a dental radiology course shall submit to the Board office:

8 (1) the course outline, syllabus, and handouts;

9 (2) slides and other lecture materials;

10 (3) examinations and grading criteria; and

11 (4) the name, resume, and verification of credentials satisfying Subparagraph (b)(6) of this Rule for all
12 course instructors.

13 (d) After the course sponsor submits all the information and documents required by Paragraph (c) of this Rule, the
14 course will be reviewed by the Board for compliance with this Rule at the next scheduled Board meeting. The Board
15 may delay reviewing a course until a later meeting if the Board's workload makes the review impracticable. If the
16 Board delays reviewing a course, it shall notify the course sponsor. A course shall be recognized by a majority vote
17 of the Board. A list of recognized courses is available on the Board's website at www.ncdentalboard.org.

18 (e) Upon receipt of evidence that a previously recognized course is not in compliance with this Rule, the Board will
19 notify the course sponsor in writing of each item of noncompliance. Within 30 days from the date of the notice of
20 noncompliance, the course sponsor shall provide a written response to the Board office which shall respond to each
21 item of noncompliance. The response shall provide documentation of corrections made, and shall show each item is
22 in compliance with this Rule. If the course sponsor fails to respond or correct noncompliance, the Board's recognition
23 of the course shall be withdrawn. As of the date recognition is withdrawn, the course and its examination shall not
24 satisfy the dental radiology training and equivalency examination requirements set out in G.S. 90-29(c)(12).

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26 *History Note: Authority G.S. 90-29(c)(12); 90-48;*

27 *Eff. July 1, 2023.*