

D H 305D: DENTAL RADIOGRAPHY IV

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2021
Units:	1
Hours:	1 lecture per week (12 total per quarter)
Advisory:	Not open to students with credit in D H 60D.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- Students will be able to list the advantages of using the buccal object rule in dentistry and perform the SLOB rule on a dental mannequin
- Given a list of technical, procedural or operator radiographic errors, students will be able to recreate and describe the error and demonstrate or illustrate the correction to the class.

Description

The fourth and last in a series of dental radiology courses for the second year dental hygiene student. Emphasis is on the understanding of radiographic localization techniques and common technical, operator, and processing errors. Continued application of digital radiography with use of sensors and scanners and alternative imaging techniques. Intended for students in the Dental Hygiene Baccalaureate Degree Program; enrollment is limited to students accepted in the program.

Course Objectives

The student will be able to:

- Perform or calculate the use of occlusal, buccal object rule, distal oblique, kVp rule, inverse square law, mAs
- Perform or explain the radiographic requirements for the State Board Exam
- Understand the film qualities created by diverging photons
- Identify, interpret the etiology of the TMJ
- Appreciate and practice the law, ethics and safety of dental radiology
- Complete minimum patient requirements

Course Content

- Speciality concepts and techniques in dental radiology
 - Occlusal projection
 - Receptor placement
 - Receptor size
 - Tubehead angulation maxilla
 - Tubehead angulation mandible
 - Use, purpose and need for occlusal radiography
 - Buccal object rule
 - Receptor placement
 - Tubehead angulation and shift

- Use, purpose and need for buccal object rule
- Distal oblique projection
 - Image placement
 - Snap-a-ray holder
 - Tubehead angulation
 - Use, purpose and need for DO projection
 - kVp rule
 - Mathematical calculation of relationship with impulses
 - Inverse square law
 - Mathematical calculation of relationships
 - Application of inverse square law
 - Beam intensity
 - mAs
 - Mathematical calculation of relationships
 - Application of mAs related to manual operational settings
 - Purpose of mAs calculations in dental radiology
- National and State Board preparation in radiography
 - Radiographic requirements
 - Full mouth
 - Panoramic
 - Contacts
 - Bone level
 - Third molars
 - Apex and surrounding bone
 - Calculus
 - Reticulation
 - Nutrient canals
 - Conceptual divergence of photon projections
 - Ideal vs. not ideal imagery
 - Quality vs. quantity
 - Panoramic collimation
 - Beam intensity
 - Radiographic appearance of the temporomandibular joint
 - Radiographic features of TMJ bones
 - Lateral pterogoid plate
 - Mandibular condyle
 - Articular eminence
 - Glenoid fossa
 - Ramus
 - Zygomatic process
 - TMJ structure
 - Capsule and articular disc
 - Ligaments
 - Innervation
 - Etiology of TMJ
 - Jaw movements and disorders
 - Trauma
 - Stress
 - Arthritis
 - Malocclusion
 - Missing teeth
 - Inferior joint space
 - Enlarged mandibular condyles
 - Bruxism, clenching
 - Legal, ethical and quality assurance in dental radiology
 - Digital fraud
 - Cone beam computed tomography
 - Portable x-ray unit
 - Right of refusal
 - HIPAA
 - Signage
 - Tubehead calibration testing

- a. Timer accuracy
- b. Linearity
- c. kVp
- d. Radiation registration with the State of California
- 8. Step wedge
- 9. Prescriptions
- F. Progressively increased patient requirements
- 1. Full mouth survey
- 2. Bitewing survey
- 3. Panoramic survey

Lab Content

Not applicable.

Special Facilities and/or Equipment

Multimedia classroom

Method(s) of Evaluation

Visual slide exams
Technical and evaluative scores on patient requirements
Written final exam

Method(s) of Instruction

Lecture
Discussion
Demonstration
Cooperative learning exercises

Representative Text(s) and Other Materials

Iannucci and Howerton. Dental Radiography, Principles and Techniques, 5th ed.. 2017.

Yamamoto, J.. Radiology Lab Policy and Information Manual. 2020.

Yamamoto, J. D H 305D Radiology Lecture Syllabus. 2020

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

A. The student will write the interpretation of their radiographs into their competency portfolio. It must demonstrate creative thinking and show the the incorporation of their knowledge, any course or clinical content with their radiographic findings. The writing must be original, intellectual and show an integration between subject disciplines.

Discipline(s)

Dental Technology