

DENT 201: DENTAL RADIOLOGY

Citrus College Course Outline of Record

Heading	Value
Effective Term:	Fall 2023
Credits:	2
Total Contact Hours:	72
Lecture Hours :	18
Lab Hours:	54
Hours Arranged:	0
Outside of Class Hours:	36
Total Student Learning Hours:	108
Prerequisite:	DENT 100, DENT 104 (or concurrent enrollment) and DENT 122.
Transferable to CSU:	No
Transferable to UC:	No
Grading Method:	Standard Letter

Catalog Course Description

This course encompasses the preclinical and clinical instruction in radiation safety, exposing, processing and mounting of radiographs utilizing traditional and digital methods. 18 lecture hours, 54 lab hours.

Course Objectives

- produce all radiographs necessary to meet state criteria while maintaining safety and infections control precautions for patient, operator and other dental personnel
- demonstrate knowledge of the science and theory of radiation to include traditional and digital methods
- demonstrate the process of mounting, evaluating, and modification necessary to render diagnostic radiographs

Major Course Content

- Effects of Radiation Exposure
 - Ionizing radiation
 - Concern with potential radiation effects
 - Short and long term effects of radiation
- Radiation Protection
 - Professional concern and responsibility
 - Radiation safety
 - Terminology
 - Radiation monitoring
- Dental X-ray Components
 - Types of dental x-ray machines
 - Parts and components
 - Production of x-rays
 - Principles of x-ray tube operation
- Dental X-ray Film
 - Types of dental film
 - Film covering and packaging
 - Film emulsion speeds
 - Duplicating film
 - Film protection and storage
- Infection Control
 - Necessity for infection control
 - Guidelines for infection control
 - Benefits of infection control
 - Infection control terminology
 - Infection control procedure
- Dental X-ray Film Processing
 - Different film processing
 - Fundamentals of processing
 - Quality control
- Identification of Anatomical Landmarks for Mounting Radiographs
 - Importance of identification of anatomical landmarks
 - Appearance of normal landmarks
 - Mounting radiographs
 - Filing and storage of dental radiographs
- Preliminary Interpretation of the Radiographs
 - Preliminary interpretation by auxiliary personnel
 - Radiographic appearance of dental restorative materials
 - Radiographic appearance of dental caries
 - Radiographic appearance of anomalies
- Quality Assurance in Dental Radiology
 - Quality assurance and control
 - Requirements for an acceptable and preventative measures
 - Causes of substandard radiographs and preventative measures
 - Quality assurance testing methods
 - Benefit of quality assurance programs
- Identifying and Correcting Faulty Radiographs
 - Inadequacies caused by faulty exposure technique
 - Inadequacies attributable to incorrect positioning of the PID
 - Inadequacies attributable to miscellaneous errors in exposure techniques
 - Inadequacies caused by faulty processing techniques
- Intraoral Radiographic Procedures
 - Fundamentals of shadow casting
 - Principles of the paralleling technique
 - Principles of the bisecting technique
 - Points of entry
 - Disinfection and sterilization
- Periapical Examination
 - Placement of film packet
 - Sequence of film positioning
 - Film retention for paralleling and bisecting technique
 - Endodontic radiography technique
- Interproximal or Bitewing Examination
 - Fundamentals of interproximal radiography
 - Methods of holding the interproximal film packet in position
 - Posterior interproximal exposures
- Digital Radiography
 - Terminology
 - Digital imaging
 - Fundamentals concepts

- d. Characteristics of a digital image
 - e. Methods of acquiring digital image
15. Radiology for Children
- a. Role of radiography in protecting the deciduous teeth
 - b. When to expose radiographs on children
 - c. Technique
 - d. Film requirements
16. Radiography for Edentulous Patient
- a. Importance of radiography
 - b. Film requirements
 - c. Technique for edentulous survey
17. Panoramic Radiography
- a. Fundamentals of panoramic radiography
 - b. Correct head positioning
 - c. Operational procedure of the panoramic radiography
 - d. Advantages and disadvantages of the panoramic radiography

Lab Content

1. Dental X-ray Film
2. Radiation safety
3. Bitewing techniques
4. Periapical radiographs using paralleling techniques
5. Pariapical radiographs using bisecting techniques
6. Infection control
7. Pediatric Radiographs
8. Film processing techniques
9. Film mounting
10. Evaluation of radiographs and correction of faulty radiographs
11. Digital radiography

Suggested Reading Other Than Required Textbook

Perio-Pro operations manual Electronically provided

Examples of Required Writing Assignments

See above

Examples of Outside Assignments

1. Describe the two accepted theories on how radiation damages biological tissue.
2. What is the MPD for dental personnel and the general public?
3. You are to take a full set of x-rays on an adult patient, describe the steps you will take: a. to set up the x-ray machine b. for infection control c. to set up the tray d. to prepare the patient for taking x-rays.
4. Describe the principles of the paralleling technique.

Instruction Type(s)

Lab, Lecture, Online Education Lab, Online Education Lecture