TAFT COLLEGE
West Kern Community College District

Reviewed by: S. Eastman
Reviewed by: M. Westwick
Reviewed by: S. Jennings
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Dental Hygiene (DNTL) 1511 Oral Radiology (2 Units) CSU
[formerly Dental Hygiene 11]

Prerequisite: Acceptance into Dental Hygiene Program

Total Hours: 32 hours lecture; 32 hours lab (64 hours total)

Catalog Description: This course teaches the fundamentals of radiation equipment and avoidance of exposure hazards along with clinical application of procedures involved in exposing, processing, preparation and interpretation of dental roentgenograms.

Type of Class/Course: Degree Credit

Text: Johnson,Orlen and Evelyn M. Thompson. *Essentials of Dental Radiography for the Dental Assistants and Hygienists.* 9th Ed. Upper Saddle River, New Jersey:Pearson Prentice Hall. 2007. Text.

Haring, Joen and Laura Lind. *Radiographic Interpretation for the Dental Hygienist.* Philadelphia: W. B. Saunders Company, 1993.

Course Objectives:

By the end of the course, a successful student will be able to:

1. explain the history of x-radiation procedures,
2. describe the fundamentals of radiation exposure and the possible hazards to the patient and operator when using radiation,
3. operate an x-ray unit according to the safety standards of the State and Federal Departments of Public Health and the National Bureau of Standards,
4. explain the component parts and workings of the dental x-ray machine and the production of x-radiation,
5. demonstrate the proper method to produce good quality x-ray films using various types of machines found in a dental offices,
6. interpret exposed film for anatomical landmarks and pathological conditions that might be present,
7. explain the factors affecting the quality of the x-ray beam and the radiographic image,
8. compare and contrast various film sizes, speed types, etc.,
9. compare and contrast different aids in producing quality x-ray films,
10. demonstrate the use and operation of dark room apparatus,
11. demonstrate how to correctly mount the x-ray films,
12. demonstrate how to properly produce good diagnostic quality x-ray film for a complete film survey and 4 bite wing diagnostic quality film, and
13. explain the basic differences between digital radiology and conventional.

Course Scope and Content:

Unit I	Introduction and History of Dental Radiology
Unit II	Dental X-Ray Machine--Components and Functions
Unit III	Radiation Protection
Unit IV	Dental X-Ray Films
Unit V	The Bitewing Examination
Unit VI	Characteristics of Radiation
Unit VII	Producing Quality Radiographs
Unit VIII	Infection Control
Unit IX	Effects of Radiation Exposure
Unit X	Dental X-Ray Film Processing
Unit XI	Identification of Anatomy Landmarks for Mounting Radiography
Unit XII	Intraoral Radiography Procedures
Unit XIII	The Periapical Examination
Unit XIV	Preliminary Interpretation of the Radiographs
Unit XV	Regulations and Legal Aspects
Unit XVI	Patient Relations and Education
Unit XVII	Identifying and Correcting Faulty Radiographs
Unit XVIII	Dental Caries
Unit XIX	Periodontal Disease
Unit XX	The Occlusal Examination
Unit XXI	Extraoral Radiography
Unit XXII	Panoramic Radiography
Unit XXIII	Radiography for Children
Unit XXIV	Radiography for the Edentulous Patient
Unit XXV	Managing Patients with Special Needs
Unit XXVI	Digital Radiology

Didactic, laboratory and clinical learning experiences designed to achieve goals and objectives:

The course objectives will be met through lectures, assigned reading assignments and reports, group participation in clinical and laboratory learning experiences, the viewing of appropriate audio-visual and related media material, and written reports on selected topics.

In the laboratory, the students will be required to assess, analyze, and name normal anatomical features of the oral cavity as they appear radiographically. They will learn to distinguish radiographically normal anatomy from pathologic conditions. Students will also compare and contrast the quality of their exposed radiographs and recognize correct placement of film for maximum diagnostic value.

Learning Activities Required Outside of Class:

The students in this class will spend a minimum of 4 hours per week outside of the regular class time doing the following:

Independent Reading and Study

Methods of Instruction:

1. Lecture
2. Class discussions
3. Audio-visual presentations
4. Field Trip

Methods of Evaluation:

1. Other examinations and quizzes, including:
    a. multiple choice items
    b. matching items
    c. true/false items
    d. practical demonstration
    e. interpretation of radiographs