
DHYG 3760L - Dental Radiology Lab

Fall 2026 Syllabus, Section 01, CRN 41235,

Credit hours: 1

Instructor

Suzanne Smith

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Public Instructor Information

Instructor Title: Professor

Instructor Professional Qualifications: MEd, Health Education & Promotion, Kent State University, 2006; BSAS, Dental Hygiene, Youngstown State University, 1991; AAS, Dental Hygiene, Youngstown State University, 1988

Instructor Office Location: Cushwa Hall, Room 1356

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Course Description

3760L. Dental Radiology Lab. The techniques necessary to expose and mount dental images with emphasis in radiographic interpretation. Three hours of lab per week. Prereq.: C or better in DHYG 2602L. 1 s.h.

TEACHING METHODS/LEARNING EXPERIENCES

- A. Demonstrations
- B. Discussions
- C. Audiovisuals
- D. Hands-on practice

COURSE OUTLINE

- A. Course Introduction – Syllabus, Clinic Tour, DHYG Radiograph Policies (3 hour)
- B. Identification of X-Ray Machine Components (2 hours)
 - 1. Yoke
 - 2. Vertical angulations dial
 - 3. Position indicating device
 - 4. Folding tube arm bracket
 - 5. Control panel
 - 6. Tube head
- C. Technical Aspects of Radiation production (4 hours)
 - 1. Operation of x-ray machine
 - 2. Radiation exposure factors
 - 3. Effects of variations in exposure time, kilovoltage and distance
 - 4. Radiographic contrast and density
- D. Radiation Protection (3 hours)
 - 1. Professional concern and responsibility

2. Radiation safety legislation
3. Guides for maintaining safe radiation
4. Structural modifications
 - E. Quality Administration in Dental Radiography (1 hour)
 1. Quality Administration
 2. Quality Control
 - F. Identification of Landmarks (3 hours)
 1. Anatomical Landmarks
 2. Mounting
 - G. Preliminary Interpretation (4 hours)
 1. Abnormalities
 2. Pathologies
 3. Artifacts
 - H. Identifying and correcting technique errors (6 hours)
 1. Errors caused by incorrect exposure settings
 2. Errors caused by incorrect positioning
 - I. Interproximal or Bitewing Examination (6 hours)
 1. Fundamentals of interproximal radiography
 2. Horizontal and vertical interproximal exposures
 - J. The Periapical Examination (6 hours)
 1. Image requirements for the periapical survey
 2. Paralleling technique
 3. Bisecting technique
 4. Panoramic technique
 - K. Panoramic Radiography (3 hours)
 - L. Special Surveys (3 hours)
 1. Pediatric surveys
 2. Edentulous surveys
 - M. Patient Education (1 hour)

Course Readings

Group	Title	Author	ISBN
Required	Dental Radiography Principles and Techniques (6th ed.)	Ianucci, J., & Howerton, L.	9780323695503
Required	Dental Radiology Lab Manual: Dental Hygiene 3760L	Smith, S. & Conner, A.	

Optional	Wilkin's Clinical Practice of the Dental Hygienist, 14th Ed	Boyd, L.D. & Mallonee, L.F.	978-1284255997
Required	YSU Dr. Madeleine Haggerty Dental Hygiene Program Policies and Procedures Manual (2026)		
Optional	Exercises in Oral Radiography and Interpretation (5th ed.)	Langlais, R., Miller C.	978-0323400633

The course readings are based on the current edition of the course textbooks. Students are responsible for all assigned course readings as specified in the Tentative Course Schedule of this syllabus. Assessment questions may be based on all course readings and content; therefore, preparation should be comprehensive.

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Tue	8/25	Chapters: 4, 7, 15	Dental Radiology Course Orientation: • Course Syllabus • Tour of DHYG Radiology Areas • Review DHYG Radiograph Policies • Introduce Intraoral X-ray Unit and Bitewing Technique	Print Dental Radiology Lab Manual
Tue	9/1	Chapters: 17, 18, 21	Introduce: • Radiology Lab Assistant Role and Evaluation • Dexis digital software • Operating the x-ray machine • Dexis Dental Software • Bitewing Technique for Horizontal BWs • Bitewing Grading (Point deductions) Expose S/U HBWs on DXTTR	
Tue	9/8	Chapters: 8, 22, 28, 30-35	Introduction to digital radiography: • grading criteria, AI, TE, DR • radiograph criteria for 18-image full mouth series (focus on 4 bitewing images) • radiograph grading guidelines • examples of calculus, caries, bone loss for radiographic interpretation Continue HBW Assignment	
Tue	9/15	Chapters: 4, 21	Exam 1 HBW Assignment Due Introduce Vertical Bitewings Introduce Recommendations for Prescribing Radiographs	Exam 1 HBW assignment due
Tue	9/22	Chapters: 11, 16	Infection control for digital radiography; introduce policies and procedures Hands-on placement of sensor for BWs on student partner Continue VBW Assignment Mounting HBW Exercise Review Exam 1	
Tue	9/29	Chapter: 19	Quiz 1 Introduce Paralleling Technique Introduce Paralleling Assignment	Quiz 1 - HBW VBW ASSIGNMENT DUE
Tue	10/6	Chapters: 12, 13, 14	RINN ORA Evaluation Continue Paralleling Assignment Introduce Final Practical CMX and Evaluation Mounting CMX Exercise Review Quiz 1	RINN ORA Evaluation
Tue	10/13		Exam 2 Complete Exposure of Paralleling CMX Assignment Download pdf image of DXTTR VBW series for DHYG 3703L e-portfolio	Exam 2

Tue	10/20	Chapter: 24	Paralleling Assignment Due Introduce printing radiographs Introduce paralleling assignment for Pedo DXTRR	Paralleling Assignment Due
Tue	10/27	Chapters: 25, 29	Quiz 2 Complete Exposure of Pedo CMX Introduce Panoramic Technique (video); Panoramic Unit and Test Mode; Policies & Procedures (DHYG Manual) Hands-on placement of sensor for PAs on student partner	Quiz #2 - VBW
Tue	11/3	Chapters: 4, 25, 29	Quiz 3 Pedo Assignment Due Student Pairs Practice Panoramic Positioning and Review Evaluation Review Guidelines for Prescribing Radiographs Review Quiz 2 EXPOSE FINAL PRACTICAL CMX Evaluation	Quiz #3 – CMX PEDO ASSIGNMENT DUE Final Practical CMX Evaluation Due
Tue	11/10	Chapters: 4, 23, 24, 25, 29	Introduce Edentulous Technique Introduce Occlusal Technique Student Pairs Practice Panoramic Positioning and Review Evaluation Review Guidelines for Prescribing Radiographs Review Quiz EXPOSE FINAL PRACTICAL CMX Evaluation	Final Practical CMX Evaluation Due
Tue	11/17		Exam 3 Review Panoramic Positioning, Q&A Panoramic Evaluation and Grade Sheet and Interpretation Panoramic Evaluation Panoramic Assignment	EXAM 3 PANORAMIC ASSIGNMENT and EVALUATION DUE
Tue	11/24		Final Practical Assignment Due Review Exam 3 Review Panoramic Evaluation Review Panoramic Assignment Students Sign Radiation Training Documentation Form	FINAL PRACTICAL ASSIGNMENT DUE
Tue	12/1	Chapters: 7, 20, 21	Confirm that: • Clinic Dentist has Diagnosed All Final CMX Images • Final CMX was printed and given to the Patient • All lab requirements are complete • All Grades in Blackboard match grades in folders Introduce Dexis Nomad, Policies and Procedures Review Bisecting Angle Technique Place PAs for Bisecting Technique Expose 1 Set of HBWs with a Bite Tab on the Sensor Barrier	BISECTING ASSIGNMENT DUE
Tue	12/8	Comprehensive of all Week 1-15 Class Readings	Final Examinations 9 am -11 am	Final Exams

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.