Dental Radiology Lab

DH - 1060 001

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Course Student Learning Outcomes

- Identify the hazards of x-radiation and demonstrate the precautions taken to protect the patient and operator from these hazards.
- Adopt an ethical responsibility to follow the “As Low As Reasonably Achievable” (ALARA) concept when exposing radiographs on patients.
- Demonstrate competency in following infection control protocol during and after radiographic procedures.
- Given the medical and dental history of a patient, select the appropriate radiographs to expose using the American Dental Association Guidelines for Prescribing Dental Radiographs.

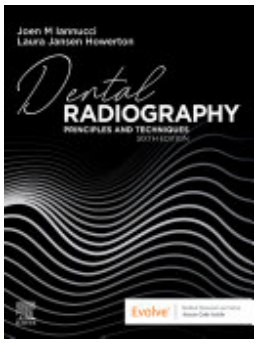
- Demonstrate the appropriate use of radiographic film, digital sensors and phosphor plates in obtaining a radiographic image.
- Select the appropriate size and type of image receptors and holders for individual patients and radiographic technique.
- Expose, process, and mount intraoral radiographs using the paralleling, bisecting, and modified techniques on primary, adult and edentulous dentition of a dental x-ray teaching and training replica (DXTTR) mannequin.
- Expose, process and evaluate panoramic radiographs and images.
- Demonstrate the technique for duplicating radiographs.
- Demonstrate competency in the operation and maintenance of x-ray and processing equipment.
- Utilize proper film processing techniques as well as properly mount and label finished radiographs.
- Identify the various processing errors and demonstrate how to correct them.
- Differentiate between horizontal and vertical angulation errors, their diagnostic acceptability and show how to correct them.
- Utilizing radiographs, identify normal radiographic anatomy, common landmarks and restorations on radiographs.
- Identify caries, periodontal disease, regressive changes and other dental pathology in a full-mouth exam (FMX).
- Demonstrate ways to manage radiographic procedures for patients with special needs or other difficulties.

College Wide Student Learning Outcomes

- 1. Communicate effectively
- 2. Develop quantitative literacies necessary for their chosen field of study
- 3. Think critically & creatively

- 4. Develop civic literacy and the capacity to be community-engaged learners who act in mutually beneficial ways with community partners
- 5. Develop knowledge and skills to work with others in a professional & constructive manner
- 6. Develop computer & informational literacy
- 7. Develop the attitudes and skills for lifelong wellness

Required Text or Materials



Title: Dental Radiography - E-Book
Subtitle: Principles and Techniques
ISBN: 9780323695510
Authors: Joen Iannucci, Laura Jansen Jansen Howerton
Publisher: Elsevier Health Sciences
Publication Date: 2021-08-10
Edition: 6th edition

For more information on textbook accessibility, contact Accessibility & Disability Services at ads@slcc.edu.

Inclusivity Statement

My intent for this course is to create a space where students feel included, heard, and respected, and where students' diverse identities and backgrounds are valued and viewed as an asset to our shared learning community. We all come to this course with unique life experiences, and there will be diversity of perspectives in our discussions. This diversity is our strength as we strive to communicate and connect across differences and build an inclusive and equitable learning environment. If you have a conflict with a class or assignment and a religious/cultural/spiritual event, please notify me beforehand, and we will make arrangements.

Assignment Schedule

Due Date	Assignment Name	Assignment Type	Points
	Introduce Yourself	Discussion	0
	Introduce Yourself	Discussion	0
9/4/25	Equipment Quiz	Assignment	15
9/11/25	Paralleling PE	Assignment	16
9/18/25	FMX (P)	Assignment	180
9/18/25	Image Mounting PE	Assignment	16
9/25/25	Bisecting PE	Assignment	16
10/2/25	FMX (B)	Assignment	180
10/9/25	FMX Paralleling (DXTTR)	Assignment	180
10/9/25	Midterm (Timed Competency) FMX (P)	Assignment	60
10/23/25	Bitewing PE	Assignment	16
10/23/25	DXTTR HBWX	Assignment	40
10/23/25	DXTTR Pedo BWX	Assignment	20
10/23/25	DXTTR VBWX	Assignment	60
10/30/25	Max Occlusal Topo	Assignment	10
11/6/25	Localization	Assignment	10
11/6/25	Mand Occlusal Topo	Assignment	10
11/6/25	Occlusal Exposure PE	Assignment	16
11/6/25	ScanX FMX Parallelling	Assignment	180
11/6/25	ScanX Technique PE	Assignment	16

Due Date	Assignment Name	Assignment Type	Points
11/13/25	PATIENT Digital FMX Paralleling	Assignment	180
11/20/25	Handheld X-ray Device PE	Assignment	16
11/20/25	Panoramic PE	Assignment	16
11/20/25	PATIENT Pano	Assignment	100
11/20/25	PATIENT Pedo BWX	Assignment	20
12/4/25	Infection Control PE	Assignment	16
12/4/25	PATIENT FMX Bisecting	Assignment	180
12/11/25	Final (Patient FMX)	Assignment	60
12/11/25	PATIENT FMX Paralleling	Assignment	180

Brief Description of Assignments/Exams

- Evaluation of the students' lab performance will be based on an Equipment Quiz, completion of required radiographic image sets of diagnostic quality, including self-evaluation forms, and performance of nine (9) Process Evaluations with Learning Experiences.
- A Midterm Exam for lab will consist of a timed competency digital Full Mouth Exam (FMX) exposed on a DXTTR mannequin.
- A Final Exam will be given on the last day of lab and will consist of exposing a FMX on a clinic patient of diagnostic quality in a timely manner.
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Grading	Possible Points	Percent of Grade
Equipment Quiz	15 pts.	10%

Grading	Possible Points	Percent of Grade
Lab Image Sets (Radiographs)	1510 total pts.	15%
Process Evaluations	160 total pts.	15%
Midterm (FMX timed competency on DXTTR)	60 pts.	20%
Lab Final (FMX on clinic patient)	60 pts.	40%
		100%

Grading Scale

A = 100 – 95 %	B = 86 – 83 %	C = 77 – 75 %	D = 66 – 64%
A- = 94 – 90 %	B- = 82 – 80 %	C- = 74 – 71%	D- = NA
B+ = 89 – 87 %	C+ = 79 – 78 %	D+ = 70 – 67%	E = 63 – and below

A : For outstanding work which demonstrates exceptional mastery of course material

B : For good work which is clearly beyond simple mastery of material

C : For acceptable work indicating a mastery of the basic concepts of a course (75% and above)

D : For unacceptable work that fails to meet course requirements

E : For unacceptable work that fails to meet course requirements

REQUIREMENT FOR SUCCESSFUL COMPLETION OF THIS COURSE:

A minimum passing grade of a C or 75% is required for successful completion of this course.

How to Navigate to Canvas

Student Academic Calendar

As students you should be aware of all important dates in the semester, such as the day that courses begin and end, as well as the drop date and the last day to withdraw. To learn more about those dates, navigate to the Student Academic Calendar below:

SLCC Student Academic Calendar

Course Outline and Calendar

COURSE	TOPIC/ACTIVITY	LAB LEARNING EXPERIENCES (LE) & PROCESS EVALUATIONS (PE)	QUIZZES & RADIOGRAPHS TO COMPLETE FOR GRADING
	WEEK ONE		
Aug. 27th DH 1050 CLASS	Introduction **Radiation History (ch. 1)** **Radiation Physics (ch. 2)** **Radiation Characteristics (ch. 5)** **Dental X-ray Equipment (ch.7)** **Dental X-ray Film (ch. 9)**		**NO QUIZ**
Aug. 28th DH 1060 LAB	Radiology Lab Introduction: Use of DXTTR Radiation Safety Instruction/Radiation Badge Equipment Identification	Clinic Policy & Procedures, Lab Grading	**NO QUIZ**
	WEEK TWO		
Sept. 3rd DH 1050 CLASS	**Quality Assurance in Dental Office (ch. 17)** **Intro. to Dental Imaging Exams (ch. 18)** **Paralleling Technique (ch. 19)**		**QUIZ 1**

COURSE	TOPIC/ACTIVITY	LAB LEARNING EXPERIENCES (LE) & PROCESS EVALUATIONS (PE)	QUIZZES & RADIOGRAPHS TO COMPLETE FOR GRADING
Sept. 4th DH 1060 LAB	Work on DXTTR Anterior Exposures Focus: Extension Cone Paralleling (XCP)/ Digital Paralleling Technique	*Paralleling LE*	**Equipment Quiz**
	WEEK THREE		
Sept. 10th DH 1050 CLASS	**Dental X-ray Image Characteristics (ch. 6)** **Film Processing (ch. 10)** **Bite-wing Technique (ch. 21)** **Film Mounting and Viewing (ch. 11)**		**QUIZ 2**
Sept. 11th DH 1060 LAB	Work on DXTTR Posterior Exposures Focus: XCP/Digital Paralleling Technique & Horizontal Bite-wing Exam (BWX)	*Paralleling PE* *Image Mounting LE*	
	WEEK FOUR		
Sept. 17th DH 1050 CLASS	**Infection Prevention & Radiographer (ch.16)** **Bisecting Technique (ch. 20)** **Exposure and Technique Errors (ch. 22)**		**QUIZ 3**
Sept. 18th DH 1060 LAB	Work on DXTTR Anterior Exposures Focus: Bisecting Technique w/ Digital Sensor	*Bisecting LE* *Image Mounting PE*	Full Mouth Exam (FMX)- Paralleling (P)
	WEEK FIVE		
Sept. 24th DH 1050 CLASS	**Radiation Protection (ch. 4)** **Dental Images & Radiographer (ch. 12)** **Imaging Patients w/ Special Needs (ch. 24)** *****Alternate Assessment Approval Due*****		**QUIZ 4**
Sept. 25th DH 1060 LAB	Work on DXTTR Posterior Exposures Focus: Digital Bisecting Technique & VBWX	*Bisecting PE*	

COURSE	TOPIC/ACTIVITY	LAB LEARNING EXPERIENCES (LE) & PROCESS EVALUATIONS (PE)	QUIZZES & RADIOGRAPHS TO COMPLETE FOR GRADING
	WEEK SIX		
Oct. 1st DH 1050 CLASS	**Panoramic Imaging (ch. 25)** **Extraoral Imaging (ch. 26)**		**QUIZ 5**
Oct. 2nd DH 1060 LAB	Work on DXTTR BWX Focus: Mock Panoramic Imaging & BWX's	*Bitewing LE* *Panoramic LE*	Full Mouth Exam (FMX)-Bisecting (B)
	WEEK SEVEN		
Oct. 8th DH 1050 CLASS	**Normal Anatomy - Intraoral (ch. 28)** **Normal Anatomy - Panoramic (ch. 29)** *Review for Midterm: Modules for weeks 1 - 6*		**QUIZ 6**
Oct. 9th DH 1060 LAB	**Timed Competency on DXTTR** Focus: FMX w/ Vertical BWX on DXTTR		FMX (P)
	WEEK EIGHT		
Oct. 15th DH 1050 CLASS	**Field Trip for 3D Imaging**		
Oct. 16th DH 1060 LAB	**FALL BREAK - NO LAB**		
	WEEK NINE		
Oct. 22nd DH 1050 CLASS	**Midterm Exam: Modules for weeks 1 - 6**		
Oct. 23rd DH 1060 LAB	Work on DXTTR BWX's Focus: BWX - Pediatric (Pedo) ScanX BWX, Horizontal (H) & Vertical (V) Digital BWX	*Bitewing PE* *Handheld X-ray Unit LE*	Pedo BWX H BWX V BWX

COURSE	TOPIC/ACTIVITY	LAB LEARNING EXPERIENCES (LE) & PROCESS EVALUATIONS (PE)	QUIZZES & RADIOGRAPHS TO COMPLETE FOR GRADING
	WEEK TEN		
Oct. 29th DH 1050 CLASS	**Occlusal and Localization Tech. (ch. 23)** **Digital Imaging (ch. 8)** **3-Dimensional Digital Imaging (ch. 27)**		**QUIZ 7**
Oct. 30th DH 1060 LAB	Work on DXTTR FMX Focus: ScanX FMX Paralleling with VBWX & Maxillary Occlusal Topographic Image	*Occlusal Exposure LE* *ScanX Tech LE*	Maxillary Occlusal Topographic Image
	WEEK ELEVEN		
Nov. 5th DH 1050 CLASS	**Introduction to Image Interpretation (ch. 30)** **Descriptive Terminology (ch. 31)** **Identification of Restorations, Dental Materials, and Foreign Objects (ch. 32)**		**QUIZ 10**
Nov. 6th DH 1060 LAB	Work on DXTTR FMX Focus: ScanX FMX w/ VBWX, Mandibular Occlusal Topographic Image & Localization	*ScanX Tech PE* *Occlusal Exposure PE*	ScanX FMX Mand. Occ. Topograph. Localization
	WEEK TWELVE		
Nov. 12th DH 1050 CLASS	**Interpretation of Dental Caries (ch. 33)** **Interpretation of Periodontal Disease(ch.34)** **Interpretation of Trauma & Lesions (ch. 35)**		**QUIZ 11**
Nov. 13th DH 1060 LAB	Work on Clinic Patient Focus: Digital FMX Paralleling with 4 BWX	*Infection Control LE*	FMX (P)
	WEEK THIRTEEN		

COURSE	TOPIC/ACTIVITY	LAB LEARNING EXPERIENCES (LE) & PROCESS EVALUATIONS (PE)	QUIZZES & RADIOGRAPHS TO COMPLETE FOR GRADING
Nov. 19th DH 1050 CLASS	**Radiation Biology (ch. 3)** **Patient Relations and Radiographer (ch.13)**		**QUIZ 12**
Nov. 20th DH 1060 LAB	Work on Clinic Patient Focus: Digital Panoramic & ScanX Pedo BWX	*Panoramic PE* *Handheld X-ray Unit PE*	Pano Pedo BWX
	WEEK FOURTEEN		
Nov. 26th DH 1050 CLASS	**THANKSGIVING BREAK - NO CLASS**		
Nov. 27th DH 1060 LAB	**THANKSGIVING BREAK - NO LAB**		
	WEEK FIFTEEN		
Dec. 3rd DH 1050 CLASS	**Patient Education & Radiographer (ch. 14)** **Legal Issues & Radiographer (ch.15)** **Dental Anomalies (study guide)**		**QUIZ 13**
Dec. 4th DH 1060 LAB	Work on Clinic Patient Focus: Digital FMX Bisecting with 4 BWX	*Infection Control PE*	FMX (B)
	WEEK SIXTEEN		
Dec. 10th DH 1050 CLASS	**Review for Comprehensive Final Exam**		
Dec. 11th DH 1060 LAB	**LAB FINAL** Work on Clinic Patient Focus: Digital FMX Paralleling with 4 BWX		FMX (P)
	FINALS WEEK		

COURSE	TOPIC/ACTIVITY	LAB LEARNING EXPERIENCES (LE) & PROCESS EVALUATIONS (PE)	QUIZZES & RADIOGRAPHS TO COMPLETE FOR GRADING
Dec. 17th DH 1050 CLASS	**Comprehensive FINAL EXAM**		
Dec. 18th DH 1060 LAB	NO LAB! Nice work! Have a wonderful holiday!		

Institutional Policies

As members of our academic community, we would like to invite you to review the Institutional Syllabus which covers important policies and procedures. This document contains important links for students on the code of student rights and responsibilities, academic integrity, and grading policies, Title IX and other important acknowledgements. By familiarizing yourself with this information, you can help us create a safe and respectful environment for everyone.

For more information, navigate to the Institutional Policies tab on the Institutional Syllabus page.

Teaching Methods and Learning Activities

- Handouts
- Demonstration
- Audiovisuals
- View and discuss radiographs
- Group discussion
- Problem solving
- Radiograph interpretation
- Demonstration and practice on Dental X-ray Teaching and Training Replica (DXTTR)

- Supervised laboratory exercises and activities

Professionalism

Professionalism is expected and includes at a minimum the following capabilities and traits :

1. **Appearance:** Displays appropriate professional appearance and is appropriately groomed as defined in the SLCC Dress Code.
2. **Attitudes:** Is actively concerned about others. Maintains a positive outlook toward others and toward assigned tasks. Recognizes and admits mistakes. Seeks and accepts feedback to improve performance.
3. **Dependability:** Completes tasks promptly and well. Arrives on time for online lectures and actively participates in clinical and didactic activities. Follows through and is reliable.
4. **Function under stress:** Maintains professional composure and exhibits good personal and clinical judgment in stressful situations. Recognizes the importance of maintaining professional behavior in the clinical setting, in spite of inappropriate action on the part of others.
5. **Initiative:** Independently identifies tasks to be performed and makes sure that tasks are completed satisfactorily. Performs duties promptly and efficiently. Is willing to spend additional time and to assume new responsibilities. Recognizes when help is required and when to ask for guidance.
6. **Integrity:** Displays honesty in all situations and interactions; is able to identify information that is confidential and maintain its confidentiality.
7. **Interpersonal relationships:** Provides support and is empathetic and considerate in interactions with peers, patients, faculty, and staff. Interacts effectively with "difficult individuals." Demonstrates respect for and complements the roles of other professionals. Is cooperative and earns respect.
8. **Tolerance:** Demonstrates ability to accept people and situations. Acknowledges his/her biases and does not allow them to affect patient care or contribute to inappropriate interactions with others.

Rules and Requirements

- **Student participation** in lab and during group assignments is critical for maximum learning.
- Students are required to demonstrate high levels of **integrity and professionalism** at all times. Failure to show professionalism and integrity will lower the overall grade by one letter grade or could result in more severe consequences as outlined in the SLCC Honor Code and the Dental Hygiene Policies and Procedures Handbook.
- **Participation in lab** is imperative for student success. If for any reason you are not able to attend the lab, it is your responsibility to let the course instructor know via email/text prior to the beginning of the lab session. One unexcused **absence or tardy** more than fifteen (15) minutes in either lab or lecture constitutes academic probation. More than one absence or tardy results in dismissal from the dental hygiene program as explained in the dental hygiene policy and procedures manual.
- An absence from lab or a missed exam requires notification of the course instructor and department coordinator. It is also the students' responsibility to obtain missed information, as well as arrange **make-up requirements** with the course instructor. Only legitimate reasons will be considered for make- up requirements. Failure to follow these guidelines will result in a grade of "0" for missed exam, quiz or homework assignment.
- The student is responsible to discuss any grading **discrepancy** with the instructor within 10 days from the posting of the grade.
- **Cell phone** usage (incoming or outgoing) is not allowed during lecture or lab. Important messages may be checked during breaks and before or after lab time.
- During lab, please refrain from reading emails, surfing the web, or engaging in other activities not related to the lab. If the student is found participating in distracting activities for themselves or others the student will lose that privilege.
- Any information obtained from this course may not be published or copied without written permission from the instructor. Any form of **plagiarism** in this course may result in failure of the course.

Electronic/Wireless Devices in the Classroom

The advent of technology use in the classroom as an instructional tool has caused both opportunities and distractions. The expectations for this course are that you are engaged and present during class time, which means that you will be free from technological distractions. Research has shown that these distractions cause individual inattentiveness and can make it difficult for others to stay focused on the immediate discussions. The following policies are in effect during our time together:

1. Cell phones, iPods, pagers, High-Resolution DVR Spy Pens with webcam and microphone or any device (excluding ADA authorized devices) that may distract from the class should be silenced before entering the classroom and may not be on the desk during class or exams. If you have an emergency and must use your cell phone, please exit the classroom to take the call. If you are discovered reading/sending text messages during class, you could be asked to leave the class and will be counted absent for that class session.

2. You are expected to engage in discussion for the class. You may use your computer to access your textbook, take notes, and research the discussion topic. However, some students may find it difficult to refrain from reading emails, surfing the web, and engaging in other activities not related to the class. Therefore, if you are discovered engaging in computer activities not directly related to the class, you will be asked to leave the class and will be counted absent for that class session.

3. You may not record or publish information from the class without written authorized use from the instructor. If used without authorization you have violated PRIVACY/INTELLECTUAL PROPERTY RIGHTS.

Learning Support and Tutoring Services

We are pleased to offer a range of tutoring and learning support services to help you achieve your academic goals. Whether you need assistance with a specific subject or want to improve your study skills, you have many options for tutoring or other support.

To learn more about the services we offer and how to access them, visit the Institutional Syllabus page under the Tutoring and Learning Support tab. We encourage you to take advantage of these resources to help you succeed in your studies. If you have any questions or would like to schedule a tutoring session, please don't hesitate to reach out to us. We are here to support you in any way we can.

Advising and Counseling Support Services

At our institution, we are committed to supporting your academic and personal growth. That's why we offer a range of advising and counseling services to help you navigate the challenges of college life. To learn more about the resources available to you and how to access them, visit the Institutional Syllabus page under the Advising and Counseling Support Services tab. Our advising team and the support centers across campus are here to support you in achieving your goals and overcoming any obstacles you may face.