



DAKOTA COLLEGE AT BOTTINEAU

Course Prefix/Number/Title: DAST 122 Radiology Lab I

Number of Credits: 1

Course Description:

Dental Assisting students will be introduced to techniques for exposing digital intra-oral full mouth series and extra-oral dental radiographs on manikins. The student will learn how to evaluate these images for diagnostic quality using the Criteria for Radiographic Acceptability. The students will also learn the process for exporting radiographs to other dental healthcare providers. Students will document radiology services on electronic dental software.

Pre-requisites:

- Acceptance into the dental assisting program
- DENT 116 Dental Anatomy (completed with a "C" or above)

Co-Requisite:

- DENT 119 Radiology Lecture

Course Objectives:

- Demonstrate the correct sensor placement for bitewings (horizontal and vertical), periapical, and occlusal sensors for digital intra-oral radiographs on skulls and manikins, for periapical images, using a variety of film-holding devices.
- Demonstrate the correct placement of the (position indicating device) PID for digital intra-oral radiographs on skulls and manikins.
- Identify the correct placement (mounting) of intra-oral radiographs in full mouth series and bite-wing radiographs for both digital and traditional radiographs.
- Identify factors and principles of diagnostically acceptable dental images.

- Use critical thinking skills to self-assess images taken and list strategies to correct any errors.
- Identify normal anatomic structures as recorded in the bite-wing, periapical, and extra-oral dental radiographs.
- Demonstrate panoramic radiography techniques.
- Accurately document the radiology services in the electronic record.
- Implement the necessary radiation safety precautions that must be followed in the dental setting.
- Demonstrate appropriate infection control techniques according to the CDC for Infection Control in the Dental Setting.
- Be responsible in providing ethical and competent care in the dental radiology clinical setting.

Dental Assisting Student Learning Outcomes addressed in this course

1. **Competently execute dental assisting skills:** Utilize current guidelines for infection control, occupational safety, and perform four-handed chairside dental assisting duties and advanced functions as permitted by the North Dakota Board of Dentistry.
2. **Maintain dental and business office records:** Ensure compliance with HIPAA regulations while managing dental office records effectively.
3. **Apply legal and ethical standards:** Adhere to the North Dakota Dental Practice Act and exhibit professionalism in all interactions with patients, coworkers, and other healthcare professionals.
4. **Provide compassionate and culturally aware care:** Deliver dental assisting services with respect and sensitivity to cultural diversity.

Dental Assisting Program Goals:

1. Earn and maintain full accreditation status according to the Commission on Dental Accreditation (CODA).
2. Admit 100% (12/12) qualified dental assisting students annually according to Dakota College Bottineau's dental assisting program acceptance criteria.
3. Maintain an annual program completion rate of 92% (11/12).
4. Maintain an annual job placement rate of 92% (11/12).
5. Maintain employer satisfaction rate of 90% with readiness skills and content preparation of graduates.

Instructor: Ricki Hill

Office: 2nd Floor Faculty

Office Hours: Tuesday 8am-12pm or by appointment

Phone: 701-858-3183

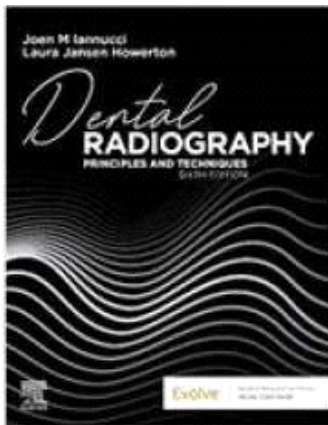
Email: ricki.hoffman@dakotacollege.edu

Lab Schedule:

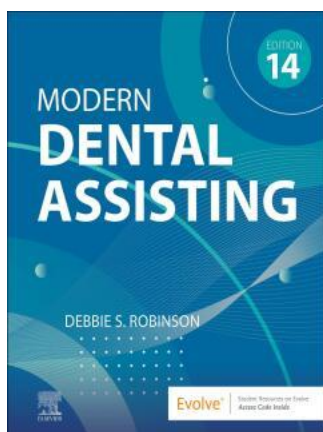
This course meets for 8 weeks, beginning mid-semester and continuing through the end of the semester. Students will meet twice per week for two hours each class.

Textbooks Required:

Ianucci, J., Howerton, L. (2022). *Dental Radiography: Principles and Techniques*. 6th Ed. St. Louis, MO. Elsevier. ISBN: 978-0-323-69550-3 (same text as DENT 119 Radiology Lecture)



Robinson, D. (2023). *Modern Dental Assisting*. 14^h Ed. St. Louis, MO. Elsevier. ISBN: 978-0-323-82440-8 (same text as DAST 124 Clinical Assisting I)



Course Requirements:

Attendance is mandatory in all labs and clinical sessions.

Student must dress in clinical attire.

Student must complete this course with a “C” or above to continue in the dental assisting program.

Tentative Course Outline:

DAST 122 Radiology Lab I

Week	Resources	Topics
Week 1	Modern Dental Assisting DAO Ch. 38 and Module 24, 25 Dental Radiography Ch. 7, 9, 10	Radiation Health Protection Techniques Processing Procedures
Week 2	Modern Dental Assisting DAO Module 24, 26 Dental Radiography Ch. 7, 11, 19, 21	Mount x-ray surveys Practice with sensor holding devices Take bitewing surveys- manikin, evaluate, retakes, if necessary, document Start FMX on manikin- right side
Week 3	Modern Dental Assisting DAO	Finish FMX on manikin- left side

	Module, 26 Dental Radiography Ch. 19, 21	Take Bitewing surveys- manikin, evaluate, retakes, if necessary, document Panoramic Demo, simulate taking a panoramic x-ray Occlusal x-ray demo
Week 4	Modern Dental Assisting DAO Module 26 Dental Radiography Ch. 19, 21	Take FMX on manikin, evaluate, retakes, if necessary, document
Week 5	Modern Dental Assisting DAO Module 26 Dental Radiography Ch. 19, 21	Take FMX on manikin, evaluate, retakes, if necessary, document in record
Week 6	Modern Dental Assisting DAO Module 26 Dental Radiography Ch. 19, 21	Take FMX on pedo manikin, evaluate, document in record
Week 7	Modern Dental Assisting DAO Module 26 Dental Radiography Ch. 19, 21	Take FMX on classmate, evaluate, document in record, email to DDS
Week 8		Finish any incomplete requirements

General Education Competency/Learning Outcome(s) OR CTE Competency/Department Learning Outcome(s):

Employs industry-specific skills for workplace readiness.

Relationship to Campus Focus: Nature, Technology, and Beyond

Dakota College Bottineau dental programs are designed to prepare students to meet the needs of communities by applying evidence-based decision making, using cutting-edge technology, and integrating quality and safety competencies into their dental programs. Each course within

the program serves as a foundation for clinical practice in the dental assisting and dental hygiene professions. To meet the demands of the every-changing field of dentistry, students are taught to value life-long learning.

Classroom Policies:

Attendance is mandatory in all lectures, labs and clinical sessions.

Grading

Course and lab/clinic grades are based on a variety of activities and assignments designated by the faculty. The criteria by which grades for each lecture and clinical course are included in the course syllabus distributed to students. Students have access to and should review the learning management system grading calculation method.

Students are responsible to know what their grades are during the course. Please review the gradebook frequently. If an assignment or exam in the student's gradebook says the assignment or exam has not been submitted or has not been entered, it is then treated as a fact the student didn't do the assignment or exam as outlined in the directions. Make sure your assignments are submitted before the due date to assure timely submission. Please see your Dakota Dental Program handbook for grading policies, in addition to the policies listed below.

Grades

Students must earn a minimum grade of "C" with a maintained 2.0 GPA or better in all required dental program courses. Students who fail a theory or lab/clinical course will be dismissed from the dental assisting program. A final grade of "D" or "F" is considered to be a failed grade. If a student has unsatisfactory grades, he/she should contact the instructor as soon as possible for a remediation plan.

Assignments/Tests/Labs/Clinics: All assignments must be completed and submitted on time in the manner specified by the faculty. Students may fail the course if all assignments are not completed.

Late/makeup work: Late work will not be accepted (student will receive a zero) unless previously arranged with the instructor or impacted by extenuating circumstances. Upon approval, if an assignment is turned in within one week of the due date, there will be a 5%

deduction from the assignment grade. Extenuating circumstances will be evaluated by the faculty for the course.

Late tests: If the student fails to take a test on time, he/she will need to contact the instructor to arrange a time to take the exam. There will be a 10% deduction from the test grade, for tests taken late. If a test isn't taken within a week of the test date, you will receive a zero for that test. Extenuating circumstances will be evaluated by the faculty for the course.

This course will be evaluated by:

This course will be evaluated by total points earned out of total possible points. The student must earn a 75% or above to continue in the dental assisting program.

Skills	Points possible	Total Points Possible
Rad. Lab Competency	8 points each lab (16 labs)	128 points
Skill competencies (6)	Assembling XCP Instruments 30 pts. Infection Control with digital Sensors 33 pts. Preparing Equipment and Exposing a Panoramic Image 51 pts. Preparing the Patient for Digital Imaging 18 pts. Preparing to Expose a FMX Paralleling Technique 39 pts. Occlusal Technique 45 pts.	216 points
Set of 4 BW's (2)	20 points each	40 points
FMX Surveys (4)	100 points each	400 points
Pedo Survey (1)	50 points	50 points

Total Possible Points		834 points
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The student needs **625 points or above** to pass this course.

The following grade scale will be used:

A	92 - 100	767 and up
B	84 – 91	699 and up
C	75– 83	625 points and up
D	67 – 74	
F	Below 67	

Classroom Etiquette:

- Be punctual to lectures, labs and clinics
- Avoid any activity that may cause distraction during class.
- Incivility will not be tolerated
- Use of mobile devices and related applications and cameras are not allowed to be used, unless it is for a class activity.
- Children are not allowed in the classroom.

Active Learning:

In addition to educational strategies such as reading, listening and reflecting, when appropriate this class makes use of learning techniques commonly known as active learning. Students should expect to participate in active learning techniques such as discussions and presentations, small group activities, writing, problem-solving, case studies, role-playing, etc. These activities promote analysis, synthesis, and evaluation of class content in order to improve student learning outcomes.

Course Study Expectations:

Commitment to learning is important to success. For every semester credit you are taking in a class, (e.g., 3 credit course = 9 hours per week) the student should schedule three hours to read, study, and devote to your course, outside of class.

Attendance Policy:

The Dakota College Dental Programs support the college policy on attendance as stated in your college catalog. The dental programs implement strict attendance policies for classroom, lab and clinical experience. Students are expected to attend all lecture, lab and clinical hours. (See the Attendance Policy in the Dental Program Handbook)

Regular, punctual attendance demonstrates professional behavior and responsibility. Absences may make it impossible for a student to meet course objectives and may result in failure of the course. A student may be excused from class, lab or clinic with the approval of the instructor. It is the student's responsibility to make arrangements to fulfill missed assignments with the appropriate faculty member. All makeup work may have a deduction in lecture, lab or clinic. All missed hours in lab or clinic must be made up with one hour for each hour missed. If a student has more than 25% absence in any classroom, lab or clinic session, it may result in course failure. **If you must be absent, (e.g., illness) please inform the instructor as soon as possible.** The instructor's contact information is on the first page of this syllabus.

Questions:

If you have questions or need clarification on anything to do with this course, please reach out to the instructor. The instructor can be reached by the contact information on the syllabus.

Student Email Policy:

Dakota College at Bottineau is increasingly dependent upon email as an official form of communication. A student's campus-assigned email address will be the only one recognized by the Campus for official mailings. The liability for missing or not acting upon important information conveyed via campus email rests with the student.

Academic Integrity:

According to the DCB Student Handbook, students are responsible for submitting their own work. Students who cooperate on oral or written examinations or work without authorization share the responsibility for violation of academic principles, and the students are subject to disciplinary action even when one of the students is not enrolled in the course where the violation occurred. The Code detailed in the Academic Honesty/Dishonesty section of the Student Handbook will serve as the guideline for cases where cheating, plagiarism or other academic improprieties have occurred.

Disabilities or Special Needs:

Students with disabilities or special needs (academic or otherwise) are encouraged to contact the instructor and Disability Support Services.

Title IX:

Dakota College at Bottineau (DCB) faculty are committed to helping create a safe learning environment for all students and for the College as a whole. Please be aware that all DCB employees (other than those designated as confidential resources such as advocates, counselors, clergy and healthcare providers) are required to report information about such discrimination and harassment to the College Title IX Coordinator. This means that if a student tells a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the College's Title IX Coordinator. Students wishing to speak to a confidential employee who does not have this reporting responsibility can find a list of resources on the DCB Title IX webpage.

DAST 122 Radiology Lab Topic Schedule This course begins mid-semester fall semester

Please dress in clinic attire.

Week and Course Objectives	Lab Activities and Student Preparation
Week 1 Course Objectives: 8, 9, 10, 11	Course Overview Prior to lab review: <ul style="list-style-type: none">• Modern Dental Assisting DAO Module 24, 25 and Ch. 38• Dental Radiography Ch. 7, 9, 10 Lab 1 Syllabus overview Radiation Health Protection Techniques <ul style="list-style-type: none">• ALARA concept• Lead apron and thyroid collars• Dosimeter badges Get acquainted with x-ray machine in the operatory <ul style="list-style-type: none">• Identify components of the x-ray machine• Set up the computer to take an x-ray

	<ul style="list-style-type: none"> Choosing and connecting a digital sensor <p>Lab 2</p> <ul style="list-style-type: none"> Compare x-ray film to digital sensors Mount digital and traditional radiographs Practice accurately documenting radiology treatment in the electronic dental chart Practice infection control for the radiology patient
<p>Week 2</p> <p>Course Objectives:</p> <p>1 – 6, 8 - 11</p>	<p>Prior to lab review:</p> <ul style="list-style-type: none"> Modern Dental Assisting DAO Module 24, 26 Dental Radiography Ch. 7, 11, 19, 21 <p>Lab 1</p> <ul style="list-style-type: none"> Practice mounting x-ray surveys Practice assembling sensor holding devices Take bitewing surveys- manikin, evaluate, retakes, if necessary, document <p>Lab 2</p> <p>Skill competency XCP devices</p> <ul style="list-style-type: none"> Start FMX on manikin- right side Evaluate images, retakes, if necessary, document in record Review normal anatomy on the images
<p>Week 3</p> <p>Course Objectives:</p> <p>1 – 11</p>	<p>Prior to lab review:</p> <ul style="list-style-type: none"> Modern Dental Assisting DAO Module, 26 Dental Radiography Ch. 19, 21 <p>Lab 1</p> <ul style="list-style-type: none"> Finish FMX on manikin- left side Evaluate images, retakes, if necessary, document in record Review normal anatomy on the images <p>Lab 2</p> <ul style="list-style-type: none"> Take 4 Bitewing survey- manikin, evaluate, retakes, if necessary, document Review normal anatomy on images Panoramic Demo Simulate taking a panoramic x-ray

	<ul style="list-style-type: none"> • Occlusal Radiograph Demo
Week 4 Nov. 6 Course Objectives: 1 – 6, 8 - 11	Prior to lab review: <ul style="list-style-type: none"> • Modern Dental Assisting DAO Module, 26 • Dental Radiography Ch. 19, 21 Lab 1 <ul style="list-style-type: none"> • Take FMX on manikin (1/2 class as operator, 1/2 class as peer assistant) • Evaluate images, retakes, if necessary, document in record • Review normal anatomy on images Lab 2 <ul style="list-style-type: none"> • Take FMX on manikin (1/2 class as operator, 1/2 class as peer assistant) • Evaluate images, retakes, if necessary, document in record • Review normal anatomy on images
Week 5 Course Objectives: 1 – 6, 8 - 11	Prior to lab review: <ul style="list-style-type: none"> • Modern Dental Assisting DAO Module, 26 • Dental Radiography Ch. 19, 21 Lab 1 <ul style="list-style-type: none"> • Take FMX on manikin (1/2 class as operator, 1/2 class as peer assistant) • Evaluate images, retakes, if necessary, document in record • Review normal anatomy on images Lab 2 <ul style="list-style-type: none"> • Take FMX on manikin (1/2 class as operator, 1/2 class as peer assistant) • Evaluate images, retakes, if necessary, document in record • Review normal anatomy on images
Week 6 Course Objectives: 1 – 6, 8 - 11	Prior to lab review: <ul style="list-style-type: none"> • Modern Dental Assisting DAO Module, 26 • Dental Radiography Ch. 19, 21 Lab 1 <ul style="list-style-type: none"> • Take FMX on pedo manikin (1/2 class as operator, 1/2 class as peer assistant) • Evaluate images, retakes, if necessary, document in record

	<ul style="list-style-type: none"> Review normal anatomy on images <p>Lab 2</p> <ul style="list-style-type: none"> Take FMX on pedo manikin (1/2 class as operator, 1/2 class as peer assistant) Evaluate images, retakes, if necessary, document in record Review normal anatomy on images
<p>Week 7</p> <p>Course Objectives: 1 – 6, 8 - 11</p>	<p>Prior to lab review:</p> <ul style="list-style-type: none"> Modern Dental Assisting DAO Module, 26 Dental Radiography Ch. 19, 21 <p>Skill Competencies on:</p> <p>Infection Control with Digital Sensors Preparing a Patient for X-rays Preparing to Expose a FMX on a Patient</p> <p>Lab 1</p> <ul style="list-style-type: none"> Take FMX on classmate (1/2 class as operator, 1/2 class as patient) Evaluate images, retakes, if necessary, document in record Review normal anatomy on images Send digital FMX to patient's dentist <p>Lab 2</p> <ul style="list-style-type: none"> Take FMX on classmate (1/2 class as operator, 1/2 class as patient) Evaluate images, retakes, if necessary, document in record Review normal anatomy on image Send digital FMX to patient's dentist
<p>Week 8</p> <p>Course Objectives: 1 – 11</p>	<ul style="list-style-type: none"> Complete Skill Competency Taking a Panoramic Radiograph Complete Skill Competency Taking an Occlusal Radiograph Compete any unfinished skill competencies or requirements Review any concepts learned during this course Practice taking any x-rays you are not confident taking