



DENT-135 – Dental Radiography

Health and Human Services

Effective Term & Year: Fall 2023

Course Outline Review Date: 2028-04-01

Program Area: Health

Description:

This course introduces students to the basic science of radiation including its discovery, history and modern use within the dental profession. Participants study the necessary equipment and supplies for the various types of dental images that are utilized in the dental profession. This course teaches students to critique radiographic images and explain the cause and effect of various equipment and armamentaria adjustments. Students review tips for gaining patient cooperation and a variety of techniques for exposing radiographic images intra- and extra-orally. The course will focus on digital radiography with a brief overview of the evolution of dental x-rays from film-based radiography to digital sensor radiography. Students will identify and describe anatomical landmarks and dental anomalies on radiographic images, including whether they are radiolucent or radiopaque. Quality assurance and the “As Low As Reasonably Acceptable” (ALARA) principle are also addressed. Participants study the biological effects of radiation exposure on patients and staff, and the purpose, equipment, and processes for radiation monitoring.

Program Information:

This is a required course for successful completion of the Certified Dental Assisting program.

Delivery Methods: On-campus (Face-to-Face)

Credit Type: College of the Rockies Credits

Credits: 3

Instructional Activity and Hours:

Activity	Hours
Classroom, Directed Studies or Online Instruction	33
Seminar/Tutorials	
Laboratory/Studio	90 *Refer to DENT 154 Course Outline
Practicum/Field Experience	
Co-op/Work Experience	
Other	
Total	123

Course Requisites:

None

Flexible Assessment: No**Course Transfer Credit:**

For information about receiving transfer credit for courses taken at either British Columbia or Alberta institutions, please see <https://www.bctransferguide.ca/> or <https://transferalberta.alberta.ca> . For more transfer credit information, please visit <https://www.cotr.bc.ca/Transfer>

All requests for course transfer credit from institutions in British Columbia or elsewhere should go to the College of the Rockies Enrolment Services office.

Textbook Resources:

Textbook selection varies by instructor and may change from year to year. At the Course Outline Effective Date the following textbooks were in use:

Elsevier Saunders (Bird and Robinson), *Modern Dental Assisting*, 13th Edition,

ISBN 978-0-323-62485-5

Elsevier Saunders (Boyd), *Dental Instruments: A Pocket Guide*, 7th Edition,

ISBN 978-0-323-62743-6

DENT 135 Module

Please see the instructor's syllabus or check COTR's online text calculator

<https://textbook.cotr.bc.ca/> for a complete list of the currently required textbooks.

Learning Outcomes:

Upon the successful completion of this course, students will be able to

- explain the principles of x-ray production;
 - practice adequate radiation hygiene when using ionizing radiation in the dental office;
 - identify the types of equipment and sundries necessary to produce radiation and diagnostic radiographs used for digital radiography;
 - expose, process, and mount radiographs;
 - identify the characteristics of radiographs for the purpose of diagnosis;
 - demonstrate techniques and tips in the skills of patient management during radiography sessions;
 - describe various exposure techniques necessary for radiographic exposure;
 - identify the anatomical landmarks necessary for the correct mounting and diagnosis of radiographs; and
 - describe the need for and techniques of quality assurance.
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Course Topics:

- X-ray Production
 - History of Dental Radiography
 - X-ray Equipment and Supplies
 - Characteristics of Radiographic Images
 - Radiation Hygiene
 - Patient Care for Dental Radiography
 - Radiographic Techniques and Alternate Imaging Methods
 - Radiographic Landmarks and Mounting
 - Explain Quality Assurance for Dental Radiography
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Evaluation and Assessments

Assessment Type: On-Campus (face-to-face)

Assessment Type	% of Total Grade
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Quizzes, Worksheets and Assignments	20%
Case Study	20%
Units 1, 2, 3, 4 and 5	30%
Units 6, 7, 8 and 9	30%
Total	100%

Grade Scheme

A+	A	A-	B+	B	B-	C+	C	C-	D	F
>=95	94-90	89-85	84-80	79-75	74-70					<70

Pass requirements: Students must achieve a minimum of 70% on all final examinations and an overall grade of 70% to pass this course.

Evaluation Notes Comments:

Elements of DENT 135, particularly course learning outcomes #2-8, correspond to DENT 154 practical objectives:

- Expose Dental Radiographs
- Upload Dental Radiographs to Patient Record
- Evaluate Radiographic Images

Exam Attendance:

Students must attend all scheduled exams at the appointed time and place. Instructors may approve an alternate exam to accommodate an illness or personal crisis. Department heads will consider other written requests. Any student who misses a scheduled exam without prior approval will receive a "0" on the exam.

Academic Policies:

College of the Rockies policies related to courses can be found at <https://cotr.bc.ca/about-us/college-policies/> and include the following:

- Policy 2.4.3 Students with Documented Disabilities
- Policy 2.4.4 Student Conduct (plagiarism, other cheating, behavioral misconduct)
- Policy 2.5.8 Academic Performance
- Policy 2.5.3 Grade Appeal
- Policy 2.4.9 Student Concerns Re Faculty

Course Changes:

The College of the Rockies updates course outlines regularly to meet changing educational, employment and marketing needs. The instructor will notify students in writing of any updates to this outline during the semester. The instructor reserves the right to revise, add or delete material while meeting the learning outcomes of this course outline.