

COURSE NAME: X-RAY POSITIONING

Spring 2012

COURSE NUMBER: DI 6102

COURSE MEETING PLACE: Smith Building (Radiology Lab)

COURSE HOURS: 2 Hour Lab

COURSE CREDITS: 1.0

CONTACT INFORMATION: G. Brian Batenchuk, DC (281) 998-5713 [bbatenchuk@txchiro.edu](mailto:bbatenchuk@txchiro.edu)

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COURSE INSTRUCTORS: G. Brian Batenchuk and Nichelle Lofton

OFFICE NUMBER AND BUILDING: SMITH BUILDING

OFFICE HOURS: Offices for all instructors are in the Smith Building. Office hours are by appointment through Ms. Pam Vise and available times for this trimester are posted on Edvance 360.

PHONE & E-Mail: Refer to contact information

COURSE MATERIALS: Refer to Edvance 360 for our PowerPoint presentation.

SuperTech (Optional): For x-ray positioning labs, students are encouraged to purchase and bring to class (lab) a SuperTech technique factor calculator.

REQUIRED READINGS/TEXTS: Bontrager, Handbook of Positioning and Technique, (7<sup>th</sup> Edition), Mosby-Elsevier Publishers, 2002. AND Yochum & Rowe's Essentials of Skeletal Radiology, (3<sup>rd</sup> Edition) Lippincott Williams & Wilkins, 2005.

SUGGESTED READING AND TEXTS: None at this time.

Edvance 360 ADDRESS: <http://edvance360.com/txchiro>

COURSE PACKS/NOTES: PowerPoint presentation on Edvance 360

COURSE DESCRIPTION:

This course uses a hands-on approach to teach proper positioning of patients for plain film x-ray examination of the axial skeleton, appendicular skeleton, chest and abdomen. Students will practice and be able to demonstrate safe and efficient patient positioning in the Diagnostic Imaging lab using x-ray machines that produce no ionizing radiation, but are otherwise similar in function to those used during their clinical internship at the Moody Health Center. Lab periods also provide an opportunity to review prerequisite material including basic x-ray physics principles, normal radiographic anatomy and pertinent radiobiology/safety issues.

PREREQUISITES: Introduction to Imaging Interpretation, designation as a Trimester Six level student.

LEARNING OUTCOMES:

- The student will demonstrate his/her ability to safely and appropriately position a patient for radiographic examinations of the axial and appendicular skeleton, chest and abdomen that will be presented in class.
- The student will assess the technical adequacy of radiographic studies and make recommendations where necessary to create a better examination.
- The student will use appropriate communication skills while interacting with mock patients.
- The student will recognize pertinent State and Federal rules and regulations related to ionizing radiation.
- The student will recognize normal radiographic anatomy and landmarks.
- The student will re-affirm their understanding of practical X-ray physics (i.e. Quality Control, Darkroom Technique, Radiobiology etc.)
- Students shall understand the clinical indications for and the relative value of diagnostic imaging.
- Students shall understand the principles, applications, technical and procedural elements of equipment employed in diagnostic imaging.
- Students shall learn how to order diagnostic imaging studies with attention to following professional protocol.
- Students shall acknowledge a shared understanding incorporating the patient's perspective.

LEARNING OBJECTIVES:

- The student will demonstrate, within an expected period of time, how to properly prepare and safely position a patient for given (mock) radiographic procedures of the axial and appendicular skeleton, chest and abdomen in the x – ray positioning lab.
- The student will verbally communicate any preparatory instruction(s) to the patient prior to taking a radiographic study.
- The student will demonstrate practical application of important safety principles during the positioning of patients in the x – ray positioning lab.
- The student will demonstrate familiarity, competency and safety in the handling of x – ray equipment, including a basic understanding of exposure technique factors.
- The student will recognize the need to reduce technical artifacts and demonstrate application of principles designed to do so during mock radiographic procedures.
- The student will be able to recognize and identify normal radiographic anatomy of those areas pertaining to the radiographic procedures covered in this class.

- The student will demonstrate that they can perform radiographic examinations.
- The student will demonstrate that they can speak in a clear manner using appropriate and grammatically correct language.
- Students shall demonstrate how to tailor the x-ray exam to reflect the unique characteristics of the special needs populations.

#### CCE COMPETENCIES:

- Diagnostic Studies
- Neuromusculoskeletal Examination
- Recordkeeping
- Ethics and Integrity

#### TCC COMPETENCIES:

- Communication
- Communication Quality Assurance./Quality Improvement

#### TEACHING METHODS/PHILOSOPHY:

- The best way to ensure that students become proficient at taking plain film radiographs is to provide them with hands-on training. Thus, the majority of laboratory time will be derived from this hands-on experience.
- At the beginning of each X – Ray Positioning lab session, a PowerPoint presentation and a demonstration by Dr. Batenchuk or Ms. Ragin will precede hands on learning.
- Students work in small groups at X – ray stations which are fully equipped with deactivated X –ray equipment. A certified radiologist and a licensed radiological technologist will assist the students in learning proper protocols for technique factor selection, patient preparation/positioning and safety.

#### COURSE POLICES/STUDENT RESPONSIBILITIES:

Students are expected to actively participate in a positive manner in the learning process to strengthen their psychomotor skills in X-ray positioning. The student will work with a partner or in small groups demonstrating what the instructors have taught him/her either currently or in the recent past.

Promptness is a requirement of this course. (3 tardies + 1 miss)

COURSE CONTENT AND OUTLINE:

- WEEK 1 : Lab 1: Review the syllabus and practical fundamentals of x-ray production  
Lab 2: Review quality assurance and radiobiology
- WEEK 2 : Lab 1: X-ray Equipment handling and operation  
Lab 2: Standard Shoulder Projections
- WEEK 3 : Lab 1: Special Shoulder Projections  
Lab 2: Standard & Special Elbow Projections
- WEEK 4 : Lab 1: Standard & Special Wrist Projections  
Lab 2: Standard & Special Hand Projections
- WEEK 5 : Lab 1: Practical Exam (Upper Extremity)  
Lab 2: Written Exam (Upper Extremity)
- WEEK 6 : Lab 1: Review Exam & Teach Standard Pelvis and Hip Projections  
Lab 2: Standard Knee Projections
- WEEK 7 : Lab 1: Special Knee Projections  
Lab 2: Standard Ankle Projections
- WEEK 8 : Lab 1: Standard Foot  
Lab 2: Practice and review for upcoming exam
- WEEK 9 : Lab 1: Practical Exam (Lower Extremity)  
Lab 2: Written Exam (Lower Extremity)
- WEEK 10 : Lab 1: Standard Cervical Spine Projections  
Lab 2: Special Cervical Spine Projections
- WEEK 11 : Lab 1: Standard Thoracic Spine Projections  
Lab 2: Chest Projections
- WEEK 12 : Lab 1: Standard Lumbar Spine Projections  
Lab 2: Special Lumbar Projections and Plain Film of the Abdomen/KUB
- WEEK 13 : Lab 1: Final Practical Comprehensive Exam  
Lab 2: Written Exam (Spine only)

GRADE METHOD AND SCALE: TCC Grade Scale- (percentages)

A (90% – 100%)	NOTE: FINAL GRADES MAY BE
B (80% – 89%)	ADJUSTED FOR ATTENDANCE
C (70% – 79%)	
F (below 70%)	

METHOD OF ASSESSMENT:

For X-Ray Positioning, a minimum of three (3) practical assessments, that require a demonstration on the part of the student, will be given. At least three (3) written exams will also be given during the trimester.

The written examination questions will include multiple choices, true and false and short answer responses.

For the practical examinations, the student will be assigned three (3) x-ray positions that they will have to demonstrate for an examiner. Each of the three positions will be timed at 4 minutes per position.

Final Grade Breakdown:

Comprehensive written and practical exams (three each), are weighted 50/50 respectively for a combined grade.

- i) Practical Assessments: Two Midterms and One Final
- ii) Written Exams: Two Midterms and One Final

STATEMENT ON “ROUNDING OFF” POLICY: Only the final course grade will be rounded off to the next highest percent. (Example: A final course grade of 79.5% automatically becomes an 80%)

STATEMENT ON EXTRA CREDIT: No extra credit is allowed to increase the percentage of the final grade.

ATTENDANCE POLICY: As per college policy. Refer to the student handbook for more information. More than four (4) absences = a drop by one letter grade and more than six (6) absences = failure/repeat .

MISSED EXAMINATIONS:

- Any exam or assignment that is missed will be recorded as a zero grade percentage. Re-exams or postponement of midterm or final exams will be granted for students who present written proof of a personal medical emergency or severe illness/death of a family member. In the case of conflicting exams, written documentation from the registrar is required to postpone your exam. Make-up midterm exams must be completed at the next makeup date opportunity or earlier. Make-up exams may be given in an essay style format. Students that are late for an

exam may have to take a make-up examination, especially if students have already exited the said exam.

- As per the TCC student handbook, students must notify faculty before missing any examination. If an examination is missed for good and sufficient reason and the student has notified the faculty member in advance, a make-up examination may be given subject to a fee of \$40.00. The fee for the make-up examination is a minimum of \$75.00 if a standardized patient is required for the exam. Additional required standardized patient hours may increase this \$75.00 minimum fee. All intra-term examinations must be made up prior to the final examinations. Missed final examinations must be made up within the first week of the next semester. A student may be allowed a maximum of two missed examination dates for good and sufficient reason per trimester. These two missed examination dates are for all enrolled courses in a trimester, not for each individual course. Any request for additional make-up examinations will require documentation substantiating the absence and must be approved by the Dean of Academic Affairs. Please refer to the TCC student hand book or go online for more information.

#### OTHER POLICIES:

A. Tutoring: As per college policy. Refer to the student handbook for more information.

B. Learning Disabilities/Impairments:

- Those students who may require additional time or other special accommodations for testing due to learning disability must contact the TCC Counseling Dept. at the beginning of the trimester in order to allow sufficient time for arrangements to be made. The presence of a disability (diagnosis alone is insufficient) must be established before any modification of standard testing protocols/procedures will be offered. To ensure the validity of any request, no accommodation for special testing circumstances will be made without prior review and recommendation from the counseling department of TCC. Texas Chiropractic College policy is designed to comply with the ADA and Section 504 as well as the guidelines outlined by the Association on Higher Education and Disability (AHEAD).

C. Review of examinations:

- Students may review their examinations by appointment with one of the instructors. Scheduling is best accomplished directly with the instructor (email or before/after class), however the faculty secretary (Ms. Pam Vise) can also be contacted in the Smith Bldg. for assistance in scheduling.
- Exams must be reviewed within 2 weeks (10 working days) of the time the grades are posted for that exam. In the case of the final exam, the student may review the exam after finals week during the break (pending instructor schedule) or the first two weeks of the next trimester.

D. Academic Dishonesty: Academic integrity is expected at all times, as per college policy.

Refer to the student handbook for more information.

E. Use of Electronic Devices: The opportunity to use electronic devices in the classroom can be suspended if a student is in violation of this policy

- Use of computers, cell phones and other forms of electronic communication or recording are not permitted during exams unless otherwise specified
1. Distracting or disruptive use of any electronic device is not permitted during class periods.
  2. Distracting or disruptive use will include but not be limited to examples below.
    - a) Cell phones: Students may not use their cell phones during classes or exams- not for calls, not for texting, not for light, not for pictures, not for anything. If you are expecting an important call, put your phone on silent alarm, sit near the door and step outside the classroom to take the call.
    - b) Personal Computers: You may use your computer to take notes during class. You may not use it for ANY form of personal or public communication during class; you may not use it to check your email; you may not use it for ANY form of entertainment, including but not limited to U-tube, videos, movies or general web-surfing.
    - c) TCC computers: You may not use the computers in the labs for any other purposes than those to which you are specifically directed by the instructor. You may not use them for ANY form of personal or public communication during class; you may not use them to check your email; you may not use them for ANY form of entertainment, including but not limited to U-tube, videos, movies or general web-surfing. You may not upload or download anything to/from these computers without the specific instruction or permission of an instructor.
    - d) Other devices: The use of any other electronic recording or communication device in the classroom must be specifically approved by the instructor.

NB: THE INSTRUCTOR RESERVES THE RIGHT TO MAKE CHANGES TO THIS SYLLABUS DURING THE TRIMESTER. ALL CHANGES, ADDITIONS OR ANNOUNCEMENTS WILL BE MADE IN CLASS AND ON BLACKBOARD.

THE END

