RADT A285: ARRT BOARD PREPARATION

Item	Value
Curriculum Committee Approval Date	03/10/2021
Top Code	122500 - Radiologic Technology
Units	1 Total Units
Hours	18 Total Hours (Lecture Hours 18)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Standard Letter (S)

Course Description

Comprehensive categorical review of diagnostic radiologic technology in preparation for State and National Certification boards. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Demonstrate acquired skills by successfully completing a simulated registry examination of at least 200 questions.

Course Objectives

- 1. Identify all factors related to image formation and quality.*
- 2. Identify the specific sections of California Regulation Code (Title 17) which govern radiologic standards and safety.*
- 3. Perform special math functions as they relate to radiographic math.**
- 4. List the specific radiographic views required to image the human body.*
- 5. Identify and give the function of all radiographic equipment.*
- 6. Adhere to appropriate standards for radiation protection and related concepts.**
- I SCAN SKILLS IDENTIFICATION
- II * Competencies
- III ** Foundation skills

Lecture Content

Introduction and orientation to the course Scope of course Syllabus Ground Rules Methods of assessment Tests Quizzes Grading criteria Anatomy Review Upper extremities Lower extremities Abdomen Thorax Pelvis Cranium Positioning skills General Diagnostic Extremities Torso Cranium Special procedures related to body systems Gastrointestinal Neurological studies Cardiovascular studies Angiographic exams Respiratory procedures Radiological modalities Sonography Nuclear medicine Radiation oncology Magnetic resonance imaging Computed tomography Radiographic accessory equipment and processing Film and Screens Speed H.D. Curve Combination Processor Components Chemicals The darkroom Radiographic Technical factors Radiographic quality KV factors Radiographic systems Film / screen combinations Detail Radiographic Quantity Inverse square law Miliamperage and time Contrast / density Fundamental physics and radiographic applications Mathematical equations Expotential system Significant system Fractions Algebraic formulas Fundamental physics Electrostatics Magnetism Electromagnetism Generators and motors Transformers and rectification Radiographic applications X-ray tubes X-ray generators Devices for improving quality Nature of x-rays (Roentgen Rays) and production Conditions necessary for x-ray production Electron interaction will target Target material Efficiency of x-rays Properties of x-rays X-ray characteristics "Hard" and "soft" rays Interactions with matter Detection of ionizing radiation Radiation Biology and Protection Background radiation / man - made x-rays Dose equivalent limits Occupational limits Personnel protection Protective measures Radiation interactions with biological systems Cellular level Molecular level Systems level Patient protection Technical factors Dose limits Equipment and devices Comprehensive Board Certification Mock exam

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- DE Online Lecture (02X)

Instructional Techniques

1. Demonstrate independent ability with 95% accuracy to image quality. 2. Exercise appropriate critical thinking and interpersonal skills in an environment that includes varying and unpredictable circumstances. 3. Maintains image repeat rate that demonstrates ALARA compliance as indicated by repeat analysis logs. 4. Demonstrate 90% of second year competency list under general supervision. 5. Independently explain designated departmental QC procedures. 6. Demonstrate increased professional growth as indicated by decreasing supervision in the performance of radiographic exams. 7. Demonstrate competency under indirect supervision to perform all routine radiographic procedures covered in RADT A171 through RADT A277. 8. Demonstrate with direct supervision portable and surgical procedures. 9. Demonstrate ability to perform as a team member in all contrast media exams. 10. Demonstrate staff radiologic technologist entry level skills according to radiology department protocol. 11. Completion of all terminal competencies and program clinical documentation, to include clinical hours required. 12. Demonstrate ability to employ age related care protocols.

Reading Assignments

Homework assignments in written format; some quizzes and tests to include essay type questions

Writing Assignments

Homework assignments in written format; some quizzes and tests to include essay type questions. Discussion boards will also be a part of the writing assignments expected of students.

Out-of-class Assignments

Homework assignments in written format; some quizzes and tests to include essay type questions. 3 hours per week.

Demonstration of Critical Thinking

Periodic quizzes; tests; final exam (comprehensive); homework assignments; participation; mock exam; and attendance

Required Writing, Problem Solving, Skills Demonstration

Homework assignments in written format; some quizzes and tests to include essay type questions

Eligible Disciplines

Radiological technology: Any bachelor's degree and two years of professional experience, or any associate degree and six years of professional experience.

Textbooks Resources

1. Required Calloway, Willam. . Mosby's Comprehensive Radiography Review, 10th ed. Mosby, 2018 2. Required https://www.radreviewmhe.com/. RADREVIEW Easy, ed. McGraw Hill Education, 2018