JEFFERSON COLLEGE

COURSE SYLLABUS

RAD111

Image Evaluation

2 Credit Hours

Revised by: Janet E. Akers BS RT (R)(M)
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RAD111 Image Evaluation

I. CATALOGUE DESCRIPTION

A. Prerequisites: Acceptance to Radiologic Technology Program, and reading proficiency

B. Credit hour award: 2

C. Description: This course shall provide the student with the knowledge and skills necessary to perform radiologic procedures for the chest, abdomen and extremity studies in both adult and pediatric patients in routine, trauma and mobile situations. The utilization of anatomical landmarks, body planes and line, and film size are reinforced. Practice of radiation protection standards, positioning, exposure factors, and radiographic critique will be utilized in a simulated setting. (F)

II. EXPECTED LEARNING OUTCOMES/CORRESPONDING ASSESSMENT MEASURES

<table>
<thead>
<tr>
<th>Expected Learning Outcomes</th>
<th>Assessment Measures</th>
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<tbody>
<tr>
<td>Evaluate radiographic image quality for adequate use of radiation protection, proper positioning, and relevant anatomical structures.</td>
<td>Class Discussion/Activity Written Assignments Oral presentation or Exam</td>
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<tr>
<td>Evaluate radiographic image quality for adequate density, contrast, recorded detail and distortion.</td>
<td>Class Discussion/Activity Written Assignments Oral presentation or Exam</td>
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<tr>
<td>Demonstrate application of skills involved in radiographic procedures in routine, trauma and mobile studies in the simulation lab.</td>
<td>Class Discussion/Activity Written Assignments Oral presentation Simulation Activity</td>
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III. OUTLINE OF TOPICS

A. Guidelines for Image Analysis
   1. Problem solving process
      i. Purpose
      ii. Determining cause of problems
      iii. Recommending corrective action
   2. Terminology
   3. Displaying images
   4. Guidelines for evaluations
i. Marking
ii. Required anatomy
iii. Relationship between anatomical structures
iv. Maximum collimation
v. Radiation Protection
vi. Bony cortical Outlines
vii. Unwanted distortion
viii. Recorded detail/spatial resolution
ix. Correct film orientation
x. Density & Penetration
xi. Contrast
xii. Artifacts
xiii. Anatomical Centering
xiv. Pt. positioning, CR (Computed Radiography) placement, angulations
xv. Acceptable/Unacceptable

B. Chest Film Evaluation
C. Rib Film Evaluation
D. Abdomen Film Evaluation
E. Mobile Chest and Abdomen Film Evaluation
   1. Mobile Chest/Abdomen Exams
      i. Portable AP (anterior-posterior) Upright Chest
      ii. Portable Abdomen
F. Upper Extremity Film Evaluation
   1. Fingers
   2. Hand
   3. Wrist
   4. Forearm
   5. Elbow
   6. Humerus
   7. Shoulder Girdle
G. Lower Extremity Film Evaluation
   1. Toes
   2. Foot
   3. Ankle
   4. Tibia-Fibula
   5. Knee
   6. Femur
   7. Hip
   8. Pelvis
H. Vertebral Column
   1. Cervical spine
   2. Thoracic spine
   3. Lumbar spine
I. Cranium
   1. Skull
   2. Facial Bones/Nasal
3. Sinuses

J. Contrast Studies
   1. Esophagus (Barium Swallow)
   2. UGI (Upper Gastrointestinal Series)
   3. Small Bowel Series
   4. Barium Enema
   5. IVP (Intravenous Pyleogram)

IV. METHOD(S) OF INSTRUCTION

This course is taught using a variety of instructional methods, which include but are not limited to interactive lectures, computer presentations, group activities and exercises, videos, supplemental handouts and student presentations. Students are expected to be ACTIVE participants in the learning process. Students are expected to read the assigned readings prior to scheduled class meetings and come to class prepared to actively participate in all activities.

V. REQUIRED TEXTBOOK(S)


VI. REQUIRED MATERIALS

A. A computer with internet access and basic software to include Word and Power Point (available through Jefferson College labs)
B. Course homepage available through Blackboard
C. Binder, paper, pens, pencils with erasers and highlighters

VII. SUPPLEMENTAL REFERENCES

A. Class Handouts
B. Library Resources
   1. Textbooks
   2. Periodicals
   3. Films On Demand Videos
C. Internet Resources
   1. On-line references
   2. Textbook companion website
VIII. METHOD OF EVALUATION (basis for determining course grade)

GRADES – Grades for all written assignments, class discussions/activities, oral presentations and exams will be based on the percentage of total points earned out of total points possible for this semester. The assignments will vary in the number of possible points based upon amount of work involved and complexity of material. A final semester grade of 86% or above must be achieved in this course to successfully complete this course.

Example of assignments:

Each section covered in class will require weekly radiographic evaluation, classroom/simulation lab activity and presentations or exams

Weekly discussion board postings and responses will be assigned based on classroom/clinical activities.

Students will be assigned specific exams and asked to obtain images from assigned clinical site or simulation lab for presentation in class.

Assignments may change based on availability of images and at the discretion of the instructor.

EXAMS & PRESENTATIONS – All exams and presentations with scores less than 86% must be retaken until a score of 86% or above is achieved to complete course requirements. The original score will be used to figure the semester grade. The student will be allowed to retake an exam a maximum of two times. If the student has not passed an exam within the three designated attempts, the student will present to the review board and may be dismissed from the program. The student must contact the instructor prior to any absence to make arrangements for retesting. Until course requirements are met, the final grade will be an incomplete.

If an exam/presentation is not taken/ performed at the scheduled time and arrangements for a make-up exam/presentation have not been made prior to the designated exam/presentation time, the grade for that exam/presentation will be zero. No make-up exam/presentation will be considered unless the instructor is personally notified prior to the absence. If a student arranges to take/perform the exam/presentation at other than the scheduled time, 5% will be deducted from the grade on that exam. Make-up exams are scheduled at the convenience of the instructor.

Student’s grade will also be based on participation in class and attendance.

ASSIGNMENTS – In order to be prepared for each class meeting, the student should complete each homework assignment prior to the following class meeting.
All assignments must be typewritten and are due at the beginning of class on the assigned due dates. Late assignments will not be accepted. In-class quizzes and assignments cannot be made up.

Grading Scale: (Jefferson College Radiologic Technology Program’s)

- A= 100-92%
- B= 91.9-86%
- C= 85.9-80%
- D= 79.9-70%
- F= 69.9 and below
- I= Incomplete
- W= Excused withdrawal from course

IX. ADA AA STATEMENT

Any student requiring special accommodations should inform the instructor and the Coordinator of Disability Support Services (Library; phone 636-481-3169).

X. ACADEMIC HONESTY STATEMENT

All students are responsible for complying with campus policies as stated in the Student Handbook. See College website, http://www.jeffco.edu).

XI. ATTENDANCE STATEMENT

Students earn their financial aid by regularly attending and actively participating in their coursework. If a student does not actively participate, he/she may have to return financial aid funds. Consult the College Catalog or a Student Financial Services representative for more details. Student’s grade will also be based on participation in class and attendance.

XII. OUTSIDE OF CLASS ACADEMICALLY-RELATED ACTIVITIES

The US Department of Education mandates that students be made aware of expectations regarding coursework to be completed outside the classroom. Students are expected to spend substantial time outside of class meetings engaging in academically-related activities such as reading, studying, and completing assignments. Specifically, time spent on academically-related activities outside of class combined with time spent in class meetings is expected to be a minimum of 37.5 hours over the duration of the term for each credit hour.