RAD170
Radiographic Pathology
3 Credit Hours

Revised by: Janet E. Akers BS RT (R)(M)
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RAD170 Radiographic Pathology

I. CATALOGUE DESCRIPTION

A. Prerequisites: Acceptance to Radiologic Technology Program, Reading Proficiency

B. Credit hour award: 3

C. Description: This course is an introduction to the basic nature and cause of disease, radiographic manifestation of disease processes and acute injury, and their related radiographic significance. (S)

II. EXPECTED LEARNING OUTCOMES/CORRESPONDING ASSESSMENT MEASURES

<table>
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<tr>
<th>Expected Learning Outcomes</th>
<th>Assessment Measures</th>
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<tr>
<td>Compare etiology, sites, complications and prognosis of selected disease processes and conditions.</td>
<td>Written Assignments&lt;br&gt;Class Discussion/Activity&lt;br&gt;Written Examinations&lt;br&gt;Oral Communication Assignment</td>
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<tr>
<td>Determine common radiographic procedures and techniques appropriate for selected disease processes and conditions.</td>
<td>Class Discussion/Activity&lt;br&gt;Written Examinations&lt;br&gt;Written Assignments&lt;br&gt;Oral Communication Assignment</td>
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<td>Describe the areas that are scrutinized in survey techniques to identify pathologic changes on a radiographic image.</td>
<td>Class Discussion/Activity&lt;br&gt;Written Examinations&lt;br&gt;Written Assignments&lt;br&gt;Oral Communication Assignment</td>
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<td>Discuss the effects, changes and impact of disease on radiographic image quality.</td>
<td>Class Discussion/Activity&lt;br&gt;Written Examinations&lt;br&gt;Written Assignments&lt;br&gt;Oral Communication Assignment</td>
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III. OUTLINE OF TOPICS

A. Introduction to Pathology
   1. Definitions
      i. Pathology
         1. Disease
            a. Structural
            b. Functional
         2. Cause of Disease
            a. Exogenous
            b. Endogenous
3. Injury
4. Inflammation
5. Repair
6. Fundamental Tissues
7. Altered Tissue Growth

ii. Disease Categories
1. Congenital Anomalies
2. Inflammation
3. Trauma
4. Tumor
5. Post-Operative Changes
6. Localized Manifestation of Generalized Disease

iii. Etiology
iv. Diagnosis
v. Prognosis
vi. Embryology

2. Purpose of Study
   i. Manifestation of Pathology
   ii. Relevance to Radiographic Procedures
   iii. Pathology Principles

B. Radiographic Pathology Principles
   1. Respiratory Anatomy/Physiology and Pathology
      i. Definitions/Pathology
      ii. Etiology
      iii. Radiographic Procedures
      iv. Survey Methods – Radiographic Image Review
         1. Bones and Soft Tissue
         2. Mediastinum
         3. Heart
         4. Hilar Region
         5. Lungs
         6. Pleura
      v. Prognosis
      vi. Effects on Image Quality

C. Skeletal Anatomy/Physiology and Pathology
   1. Definitions/Pathology
   2. Etiology
   3. Radiographic Procedures
      i. Soft Tissue
      ii. Boney Surfaces
      iii. Abnormalities in the shape, size and relationship with bones
      iv. Internal Structures
      v. Location of pathological problems in relationship to other structures
      vi. Determine if Follow-up Exam is necessary
   5. Prognosis
6. Effects on Image Quality
7. Types of Fractures

D. Abdominal Anatomy/Physiology and Pathology
   1. Definitions/Pathology
   2. Etiology
   3. Radiographic Procedures
      i. Fat and Muscle Planes
      ii. Solid Organs
      iii. Gas- Patterns
      iv. Calcifications
      v. Intraperitoneal Air and Fluid
      vi. Unrelated Areas
         1. Lung Bases
         2. Extra-Abdominal Soft Tissue
         3. Skeletal Structures
   5. Prognosis
   6. Effects on Image Quality

E. Circulatory and Lymph System Anatomy/Physiology and Pathology
   1. Definitions/Pathology
   2. Etiology
   3. Radiographic Procedures
   4. Congenital Anomalies
   5. Inflammatory and Degenerative Processes
   6. Neoplasms
   7. Survey Methods
   8. Prognosis
   9. Effects on Image Quality

F. Nervous System Anatomy/Physiology and Pathology
   1. Definitions/Pathology
   2. Etiology
   3. Physiology and Function
   4. Special Imaging Procedures
   5. Congenital Anomalies
   6. Inflammatory and Degenerative Processes
   7. Trauma
   8. Neoplasms
   9. Prognosis
   10. Effects on Image Quality

G. Reproductive System Anatomy/Physiology and Pathology
   1. Definitions/Pathology
   2. Etiology
   3. Physiology and Function
   4. Special Imaging Procedures
   5. Congenital Anomalies
   6. Inflammatory and Degenerative Processes
   7. Neoplasms
   8. Prognosis
   9. Effects on Image Quality
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, 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 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 80% or above must be achieved in this course to successfully complete this course.

EXAMS All exams with scores less than 75% must be retaken until a score of 75% 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 is not taken at the scheduled time and arrangements for a make-up exam have not been made prior to the designated exam time, the grade for that exam will be zero. No make-up exam will be considered unless the instructor is personally notified prior to the absence. If a student arranges to take the exam 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. Assignments will consist of worksheets, textbook reading, review questions and other activities to enhance the learning experience.

Evaluation tools may include research projects, written and oral communication projects, class attendance/participation, homework assignments, and exams.

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.