JEFFERSON COLLEGE

COURSE SYLLABUS

RAD150

Cross-Sectional Anatomy

3 Credit Hours

Revised by: Janet E. Akers BS RT (R)(M)
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RAD150 Cross-Sectional Anatomy

I. CATALOGUE DESCRIPTION

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

B. Credit hour award: 3

C. Description: This course will introduce application techniques, image formation, computer anatomy and picture archiving of digital imaging. Processing and computer tomography concepts are presented. Fundamental study of the human anatomy including bones, organs, vessels and tissues in cross-section will be conducted. Specific procedures imaged for the head, brain, neck, thorax, abdomen and pelvis will be addressed. A general review of scanning protocol, patient preparation and evaluation of radiographic image quality will be discussed. Knowledge of cross-sectional anatomy will lead to a greater understanding of modalities such as CT, MRI and Ultrasound. (S)

II. EXPECTED LEARNING OUTCOMES/CORRESPONDING ASSESSMENT MEASURES

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<th>Expected Learning Outcomes</th>
<th>Assessment Measures</th>
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| Cite the structures demonstrated on commonly performed CT images. | Written Assignments  
Class Discussion/Activity  
Written Examinations |
| Describe scanning protocols, patient preparation, and radiographic evaluation on general CT exams. | Class Discussion/Activity  
Written Examinations  
Written Assignments |
| Differentiate the gross anatomical structures identified in the axial, sagittal and coronal planes. | Class Discussion/Activity  
Written Examinations  
Written Assignments |

III. OUTLINE OF TOPICS

A. Introduction to Sectional Anatomy
   1. Define Anatomy, Cross-Sectional Anatomy and Relationship Anatomy
   2. Review associated Terminology
   3. Review Planes of the Body
   4. Review Gross Anatomy
   5. Discuss different modalities and applications
   6. Identify Value for the Technologist
   7. Application Techniques
8. Image Formation
9. PACS (Picture Archiving and Communication System) Processing
10. Basic Principles of Computed Tomography
   i. Generations
   ii. Post Processing
B. Cranium and Facial Bones
   1. Anatomy
      i. Occipital Bone
      ii. Temporal Bone
      iii. Facial Bone
      iv. Sinuses
      v. Orbit
      vi. Muscles
   2. Cross-Sectional Anatomy and Protocols
   3. Pathology
C. Brain
   1. Anatomy
      i. Meninges
      ii. Ventricular System
      iii. Vascular System
      iv. Cranial Nerves
   2. Pathology
D. Spine
   1. Anatomy
      i. Vertebral
      ii. Spinal Cord
      iii. Plexuses
      iv. Cranial Nerves
   2. Pathology
E. Neck
   1. Anatomy
      i. Organs
      ii. Muscles
      iii. Vascular Structures
   2. Pathology
F. Thorax
   1. Anatomy
      i. Lungs
      ii. Bronchi
      iii. Mediastinum
      iv. Azygos Venous System
      v. Breast
   2. Pathology
G. Abdomen
   1. Anatomy
      i. Peritoneal Space
      ii. Retroperitoneal Space
      iii. Liver
      iv. Portal System
      v. Billiay System
      vi. Spleen
      vii. Adrenals
      viii. Pancreas
      ix. Kidneys
      x. Intestines
      xi. Vasculature
   2. Pathology

H. Pelvis
   1. Anatomy
      i. Pelvic Bone
      ii. Pelvic Muscles
      iii. Pelvic Viscera
      iv. Pelvic Vasculature
      v. Lymph Nodes
   2. Pathology

I. Comprehensive Film Review

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 PowerPoint (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—Please plan to devote at least four to six hours per week in addition to class meetings for completing homework assignments, reviewing, composing rough and final drafts, and preparing for the next class session. 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.
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/jeffco/index.php?option=com_weblinks&catid=26&Itemid=84](http://www.jeffco.edu/jeffco/index.php?option=com_weblinks&catid=26&Itemid=84)).

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.