

RADIOGRAPHIC ANATOMY

Revised 08/02/2010

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COURSE NUMBER: RAD 105

PREREQUISITE(S): None

CO-REQUISITE(S): RAD 130

COURSE DESCRIPTIONS This course includes the study of the structures of the human body and the normal function of its systems. Special emphasis is placed on radiographic anatomy.

TEXTBOOK(S):
Hayes, Steven Sr. Radiographic Anatomy, Positioning, and Procedures Workbook. Volumes I and II. 3rd ed. Mosby: St. Louis, 2003.

Thibodeau, Gary A. and Kevin T. Patton. Structure and Function of the Body. 13th ed. Mosby: St. Louis, 2004. ISBN#978-0-323-04966-5

REFERENCE(S): None

OTHER REQUIRED MATERIALS, TOOLS, AND EQUIPMENT: Computer with internet access, Internet Explorer 5.0 or higher or other current browser, JAVA, word processing software (must be able to save WORD format) and antivirus software.

Colored pencils or pens

METHOD OF INSTRUCTION: This course is taught with a combination of lab and lecture. Lecture material is discussed with the aid of transparencies, anatomic models, and actual bones. Lab activities include the use of anatomic models, skeleton individual bones and use of computer software in the computer lab. Discussion of the anatomic parts and diagram identification aids in the student's understanding.

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| <u>GRADING SYSTEM:</u> | 94 | - | 100 | = | A |
| | 85 | - | 93 | = | B |
| | 75 | - | 84 | = | C |
| | 70 | - | 74 | = | D |
| | Below | - | 70 | = | F |

Because RAD 105 is a major course in the Radiography Curriculum, a grade of 75 or higher must be achieved to continue in the program.

It is the policy of all program faculty that no individual test grades or course grades are rounded to a whole number.

**GRADE
CALCULATION
METHOD:**

There will be a total of eight chapter tests that will be averaged together and will count as 75% of the course grade. There is an final exam that will constitute 15% of the final course grade.

Topic activities relating to the body systems will be used to enhance the student's comprehension. This will constitute 10% of the course grade. Topic activities may include (but not limited to) in class quizzes, online quizzes, worksheets, and classroom activities. Any student not seated in class when an activity is handed out will not be allowed to participate and will receive a grade of zero (0). Online quizzes not completed by the due date and time will receive a grade of zero (0).

A final exam will be given in the course and will constitute 15% of the course grade.

Course grade calculation will be as follows:

75% = Module Tests

10% = Topic Activities (homework, quizzes ect)

15%= Final Exam

If a student has a course average of 94 or higher, he/she may choose to exempt the final exam with the approval of the instructor.

**ATTENDANCE
POLICY:**

Students are responsible for punctual and regular attendance in all classes, laboratories, field trips, and other class activities. The College does not grant excused absences; therefore, students are urged to reserve their

absences for emergencies. When illness or other emergencies occur, the student is responsible for notifying instructors and completing work missed. **(Students are considered absent if they miss more than thirty (30) minutes of class time.)**

Students are tardy if not in class at the time the class is scheduled to begin. **Students who are tardy to class are admitted to class at the discretion of the instructor.**

Instructors maintain attendance records. However, it is the student's responsibility to withdraw from a course. A student who stops attending the class and fails to initiate a withdrawal will remain on the class roster. *With this in mind, for every assignment, test or exam not completed while still enrolled in the course the student will receive a grade of zero and the final course grade will be calculated accordingly.*

Withdrawal Policy: During the first 75% of the course, a student may initiate withdrawal and receive a grade of W. A student cannot initiate a withdrawal during the last 25% of the course. Extenuating circumstances require documentation and approval by the appropriate department head and academic dean.

No provisions will be made to make-up examinations unless **prior** arrangements have been made with the instructor. (See Radiography Program Student Handbook.) If a student is absent due to sickness or emergency on the day of an assigned test, the student must notify the appropriate instructor **prior** to the beginning of a class period. (The student must speak directly with the specific instructor. If the instructor is not available prior to class, a message may be left on the instructor's voice mail. The instructor will return the phone call as soon as possible.) Arrangements will be made by the student and instructor for the make-up examination to be given the day that the student returns to campus. No arrangements will be made for the make-up examination in the event that the student is absent without prior notification. A grade of zero (0) will be recorded for that test.

Absences for Religious Holidays: Students who are absent from class in order to observe religious holidays are responsible for the content of any activities missed and for the completion of assignments occurring during the period of

absence. Students who anticipate their observance of religious holidays will cause them to be absent from class and do not wish such absences to penalize their status in class should adhere to the following guidelines:

1. Observance of religious holidays resulting in three or fewer consecutive absences: Discuss the situation with the instructor and provide written notice at least one week prior to the absence(s). Develop (in writing) and instructor-approved plan which outlines the make up of activities and assignments.
2. Observances of religious holidays resulting in four or more consecutive absences: Discuss the situation with the instructor and provide the instructor with written notice within the first 10 days of the academic term. Develop an instructor-approved plan with outlines the make up of activities and assignments.

ACADEMIC CONDUCT:

ACADEMIC DISHONESTY: Students are expected to uphold the integrity of the College's standard of conduct, specifically in regards to academic honesty. All forms of academic dishonesty including, but not limited to, cheating on assignments/tests, plagiarism, collusion, and falsification of information will call for disciplinary action. Disciplinary action imposed may include one or more of the following: written reprimand, loss of credit for assignment/test, termination from course, and probation, suspension, or expulsion from the College. For further explanation of this and other conduct codes, please refer to the Student Handbook.

CELLULAR PHONES AND PAGERS/BEEPERS: Cellular phones, pagers and beepers are not permitted to be turned on or used within the classroom. Use of these devices during classroom time will be considered a violation of the student code as it relates to "disruptive behavior." The student will be dismissed from the classroom.

CLASS/LAB PROCEDURES:

Lecture, discussion and topic activities will be used to facilitate the students' learning. Activities may be (but not limited to) any of the following: use of anatomic models, bones, worksheets, online quizzes, classroom quizzes, and classroom activities.

ACCOMMODATIONS:

Students who need special accommodations in this class because of a documented disability should notify Student

Disability Services. You may contact Student Disability Services by calling, (864) 592-4811, toll-free 1-800-922-3679; via email through the Spartanburg Community College web site at www.sccsc.edu/SDS/; or by visiting the office located in the Dan Lee Terhune Student Services Building, room 112 of the Spartanburg Community College campus. By contacting Student Disability Services early in the semester, students with disabilities give the College an opportunity to provide necessary support services and appropriate accommodations.

**COURSE
COMPETENCIES &
OBJECTIVES:**

Upon satisfactory completion of this course, the student will be able to:

- I. Define the basic structure, components, process of division, and classification of the cell.
 1. Describe characteristics of the cell.
 2. Describe the function of each cytoplasmic organelle.
 3. Explain how a cell reproduces.
 4. Classify cells.

- II. Identify and locate in diagram form the organization of the body.
 1. Identify body cavities.
 2. Describe basic tissue types.
 3. Locate various tissues in the body.
 4. Describe the composition of organs.
 5. Identify the function of each body section.
 6. Define anatomic terms relating to the body

- III. Identify the structure and function of the respiratory system.
 1. Identify the location of the system in the body.
 2. Explain the function of the system.
 3. Identify the organs of the system.
 4. Describe the function of the component parts.
 5. Locate the organs of the system.
 6. Identify the membranes of the thorax.
 7. Understand the physiology of respiration.
 8. Compare the mechanisms of inspiration and expiration.

9. Define anomalies and pathologies relating to the system.

IV. Define the structure and function of the circulatory system.

1. Identify the location of the system in the body.
2. List the organs of the system.
3. Describe the function of the system.
4. Trace pulmonary and systemic circulation.
5. Describe the function of the lymphatic organs.
6. Define anomalies and pathologies relating to the system.
7. Identify the parts of the heart.
8. Describe the membranes of the heart.
9. Identify the vessels branching from the aortic arch.
10. Describe the function of the portal system.

V. State the organs of the endocrine system and their functions.

1. Locate the system in the body.
2. Identify the organs of the system.
3. Describe the function of the system.
4. Identify exocrine and endocrine glands.
5. Define anomalies and pathologies relating to the system.
6. Define hormones.
7. Relate various hormones to the appropriate gland.

VI. Define the function of the muscular system.

1. Locate the system in the body.
2. Describe the function of the system.
3. Describe radiographic application of the system.
4. Locate certain muscles in the body as indicated.
5. Relate the muscular system to its functioning with the skeletal system.

VII. Identify the components and function of the skeletal system.

1. Identify the function of the skeletal system.
2. Analyze formation and development of bones.
3. Describe the structure of three types of joints in the body.

4. Define pathological terms relating to the structure of joints.
5. Identify the bones of the upper extremity, lower extremity, thorax, and skull.
6. Classify the bones of the upper extremity, lower extremity, thorax, and skull.
7. Name all bony prominences in the upper extremity, lower extremity, thorax, and skull.
8. Locate and name joints of the upper extremity, lower extremity, thorax, and skull.
9. Classify the joints of the upper extremity, lower extremity, thorax, and skull.
10. Locate the bony landmarks of the upper extremity, lower extremity, thorax, and skull.
11. Define anomalies and pathologies of the upper extremity, lower extremity, thorax, and skull.
12. Identify paranasal sinuses of the skull.
13. Identify radiographic baselines of the skull.

VIII. Name the components and function of the digestive system.

1. Explain the function of the digestive system.
2. Identify the accessory organs of the system.
3. Define basic terms relating to digestion and the system.
4. Identify and locate on a diagram the organs of the system.
5. Describe the functions of the organ within the system.
6. Define anomalies and pathologies relating to the system.
7. Discuss nine regions and four quadrants of the abdomen.
8. Identify types of body habitus.

IX. Name the components and function of the nervous system.

1. Locate the system in the body.
2. List the organs of the system.
3. Describe the function of the system.
4. Define anomalies and pathologies relating to the system.
5. Identify the divisions of the nervous system.

X. Identify the reproductive process and the components of

the system.

1. Locate the system in the body.
2. List the organs of the system.
3. Describe the function of the system.
4. Define anomalies and pathologies relating to the system.
5. Explain radiographic demonstration of the system.

XI. Name the organs and function of the urinary system.

1. Explain the function of the urinary system.
2. Identify organs of the system.
3. Discuss the microscopic anatomy of the kidney.
4. Discuss microscopic functioning of the kidney.
5. Define anomalies and pathologies relating to the urinary system.
6. Locate the organs of the system.

XII. Define the special sense organs and their functions.

1. Describe the eye.
2. Identify the function of the eye.
3. Describe the ear.
4. Identify the parts of the ear and their functions.
5. Describe the parts of the nose.
6. Describe the physiologic process of smell.
7. Identify the parts of the mouth.
8. Explain the functions of the mouth.