

RAD 232—SELECTED RADIOGRAPHY SYSTEMS

COURSE INSTRUCTOR: Sandi Watts, MSHA, RT(R), ARRT
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COURSE DESCRIPTION:

This course is designed to instruct the student in the anatomy of the skull, facial bones, paranasal sinuses, mandible, digestive system, urinary system, biliary system, and human reproductive systems. Routine imaging protocols common to most health facilities will be described. Particular emphasis will be placed on radiographic imaging of the trauma patient.

COURSE OBJECTIVES:

1. Apply the principles of radiation protection to the trauma patient
2. Apply the principles and concepts of skull imaging protocols.
3. Define and identify skull topographic landmarks.
4. Apply the principles and concepts of paranasal sinuses imaging protocols.
5. Apply the principles and concepts of mandible imaging protocols.
6. Discuss the principles and concepts of digestive system, and biliary system imaging.
7. Discuss the principles and concepts of the urinary system and reproductive system imaging.
8. Identify anatomy visualized on respective radiographs.
9. Always practice **ALARA**-by keeping your patient's radiation exposures (and your own occupational exposures) **As Low As Reasonably Achievable**.

PREREQUISITE: RAD 222; **CO-REQUISITE:** RAD 232L & RAD 212

TEXTBOOKS:

Frank, E.D., Long, B.W., Smith, B.J. (Ed.). (2013). Merrill's Atlas of Radiographic Positions and Radiologic Procedures, 12th edition. Volumes 2 and 3.

Frank, E.D., Long, B.W. & Smith, B.J. (Ed.). (2013). Workbook for Merrill's Atlas of Radiographic Positions and Radiologic Procedures, 12th edition.

SUPPLEMENTAL TEXTBOOKS:

Ehrlich, R.A. and Coakes, D.M.. (2014). Patient care in radiography with an introduction to medical imaging, 8th edition.

Selected pages from Kaput, W. and Elson, L.M. (2002). The anatomy coloring book, 3rd edition.

ACADEMIC HONESTY:

All students are expected to adhere to a strict code of academic honesty. Academic honesty is addressed according to the “Policies and Procedures Applicable to Academic Dishonesty” as stated in the “Important Information for Students, Faculty and Staff” booklet, available from the Office of Vice Chancellor for Student Affairs.

ACTS OF ACADEMIC DISHONESTY, from the “SIUC Student Conduct Code”, section II Violations, article A (www.siu.edu/~policies/policies/conduct.html):

- A. Plagiarism, representing the work of another as one’s own work;
- B. Preparing work for another that is to be used as that person’s own work;
- C. Cheating by any method or means;
- D. Knowingly furnishing false information to a University official relative to academic matters;
- E. Soliciting, aiding, abetting, concealing, or attempting conduct in violation of this code.

Penalties will be imposed for violations of this policy in accordance with the SIUC Student Conduct Code. These penalties may include one or more of the following disciplinary measures for a case of academic dishonesty:

- A grade of zero (0) for the assignment, lab or test.
- An “F” for the entire course.
- Recommendation of dismissal from the RADS Program.
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MEANS OF STUDENT EVALUATION:

Minimum passing average is 75% based on the following criteria:

Evaluation areas	Grading Scale
Tests (3): 75%	93-100 = A
<u>Final Exam (written): 25%</u>	85- 92 = B
Total: 100%	75- 84 = C
	0- 74 = F

Tests are normally given as “multiple choice”. Partial credit is NOT given for incorrect answers. Students are **NOT permitted to use the restroom during a TEST. If you leave the classroom for any reason during a test, you will forfeit the test and receive a score from the questions you have answered **only**, with that number divided by the TOTAL number of questions on the test.

All students must pass each of their Radiologic Sciences prefix courses (RAD) with a grade of “C” or better in order to satisfy Program requirements, to graduate, and to pass the National Board Exam in Radiography. This grade of “C” or better is based upon the Radiologic Sciences grading scale.

Any student that fails a Radiologic Sciences course will not continue in our Program. When course failure occurs, the student will meet with the appropriate faculty member and academic

advisor to discuss the student's future educational goals. This discussion may include referring the student to the University Career Services office (www.siu.edu/~ucs; Woody Hall B 204; Ph: 618-453-2391) for testing via the "Strong Interest Inventory" to identify the academic majors that best fit the student's personality, values, interests, and skills.

During the summer between the junior and senior years, each radiography student will take the National Board Exam in Radiography, administered by the American Registry of Radiologic Technologists (ARRT). This 200 question test has a minimum passing score of 75%. Therefore, to better prepare our students to take and pass this National Board Exam, the Radiologic Sciences Program uses a grading scale that is more stringent than the rest of the University.

Successful completion of this course allows the student to register for the next course in the program sequence...**RAD 332 (Radiography Clinic II).**

ATTENDANCE:

Please note:

1. Due to the frequently graphic content presented in this course, bringing infants and/or children to class/lab is strongly discouraged!
2. Please turn off all cell phones, MP3 players, tablets, iPods, iPads, headsets, pagers, beepers, all other personal communication devices, and remove all types of earphones/earbuds!! **If it is absolutely necessary to be in constant communication with your children, their schools, business associates, spouse, friends, etc., then, now is not the right time for you to be pursuing our Radiologic Sciences Program.**

A record of daily attendance is kept. Attendance, both to class and labs, is mandatory for this course. **Habitual tardiness to lecture and/or lab will result in points being deducted from each final grade.** Each late arrival or absence will result in 0.5 point, daily, deducted from the student's final grade.

Any student that misses class is responsible for the material covered. He or she should get notes from other students and contact the course instructor for the missing material.

During the semester, if a student chooses to drop out of the Radiologic Sciences program, or this course, that student must meet with the course instructor to discuss the student's reasons for leaving the course.

Keep in mind that dropping below "full-time" status will jeopardize the student's bank loans, financial aid, scholarships, Veterans benefits, housing, academic standing, time to degree, athletic status and/or international student visa. Since thoughts and feelings often influence a student's behavior and academic performance, any student having doubts or second thoughts about continuing in this Program should talk to any of the Radiologic Sciences faculty.

All students must pass each of their Radiologic Sciences prefix courses (RAD) with a grade of "C" or better in order to satisfy Program requirements, to graduate, and to pass the National Board Exam in Radiography. This grade of "C" or better is based upon the Radiologic Sciences grading scale.

Any student with a course average in the "D" or "F" range will be strongly advised to seek academic help, or to consider pursuing a different academic major.

Any student that fails a Radiologic Sciences course will not continue in our Program. When course failure occurs, the student will meet with the appropriate faculty member and academic advisor to discuss the student's future educational plans/goals. This discussion may include referring the student to the University Career Services office, in the Student Services building, for testing via the “Strong Interest Inventory” to identify the academic majors that best fit the student’s personality, values, interests and skills.

HARASSMENT

Sexual harassment creates a hostile environment and it will not be tolerated regardless of whom initiates such harassment. Page 32 and Appendix E (General Policy section, page 56) describe the University’s commitment to creating and maintaining an environment that is free of all forms of harassment, exploitation, or intimidation.

Sexual harassment in higher education is illegal! Southern Illinois University Carbondale and the Radiologic Sciences Program will not tolerate harassment of our students and are willing to use the full extent of the law to stop such behavior towards our students.

If an SIUC RADS student is harassing another student at a clinical site, or is harassing an employee of a clinical site, then the appropriate steps will be taken to remove the offending student from the clinical site, even removing the offending student from the RADS Program.

If an SIUC RADS student is harassed by:

- another SIUC student at a clinical site;
- a student from another school at the same clinical site; or,
- an employee of a clinical site (even by a physician, including a radiologist),

then the appropriate steps will be taken to remove the student from the clinical site, and to prosecute the offender to the full extent of the law to stop such behavior towards our students.

Bottom Line #1: In the event that a RADS student is concerned with sexual harassment, substance abuse, communicable diseases, and/or workplace hazards, she/he should contact the Program Director (Ms. Watts) or faculty immediately. Ms. Watts will work with the facility to ensure the safety of the student.

Bottom Line #2: Any SIUC RADS student who believes he or she is being subjected to sexual harassment, or retaliated against should report the incident(s) to:

- **Complaint Resolution Officer:** Linda McCabe Smith, Associate Chancellor for Institutional Diversity (ACID), 110 Anthony Hall, 618-453-1186; or
- **Office of Diversity and Equity** (under ACID): Davies Hall, Room 157; 618-453-4807, Casey Parker, Investigator.

Please note, the Office of Diversity and Equity (ODE; <http://ode.siu.edu>) at SIU Carbondale **processes complaints** of violations of **Title IX and Title VII** and conducts investigations. This includes complaints of **sexual harassment**; gender, race, age, disability, veteran status, religious or other **discrimination; bias**; and **retaliation**.

ADA Accommodations:

Under the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act, educators and students have both rights and responsibilities. It should be the mutual goal of the

student and the university to maximize the likelihood that students with disabilities succeed. Accommodation sometimes is necessary.

If you think you have a learning disability or know you have a disability but have not been tested, then please contact SIUC Disability Support Services at 453-5738 for an appointment for the evaluation of your learning disability.

Once you have been diagnosed as having a learning disability, we, the faculty of the Radiologic Sciences Program, strongly encourage you to tell us what type of learning disability and what type of accommodation is needed to help you succeed in our Program. If you do not notify us (prior to the end of the first week of the semester) that you have a disability, and you do not request accommodation during this course, then you accept full responsibility for your own success or failure in this course. **Ultimately, YOU are responsible for your own success or failure and the resulting consequences.**

RAD 232 COURSE SEQUENCE for LECTURES
Mondays & Wednesdays 9:00 a.m. to 11:50 a.m.

<u>Day/Date</u>	<u>Description</u>
Monday, June 13, 2016 (Week #1)	Orientation; Begin Cranial Anatomy
Wednesday, June 15	<u>RAD 332 Clinic 2 Orientation MANDATORY</u>
Monday, June 20 (Week #2)	Continue Cranial Anatomy; Lab Orientation
Wednesday, June 22	Fetal Cranial Anatomy; Start Facial Bones & Orbits
Monday, June 27 (Week #3)	Finish Facial Bones & Orbits
Wednesday, June 29	<u>Test #1 Skull Anatomy including Skull Positioning</u> Paranasal Sinuses, Mandible, Mastoids & Inner Ear
Monday, July 4, 2016 (Week #4)	NO SCHOOL ☺
Wednesday, July 6	Continue Paranasal Sinuses, Mandible, Mastoids & Inner Ear
Monday, July 11 (Week #5)	Finish Mandible, Mastoids & Inner Ear; Review for Test #2
Wednesday, July 13	<u>Test #2 including Facial Bones & Sinuses, including Sinus Positioning</u> Foramina of Cranial Floor
Monday, July 18 (Week #6)	Biliary System & Digestive System
Wednesday, July 20	Urinary System
Monday, July 25 (Week #7)	<u>Test #3 Mandible & Inner Ear, including Biliary & Digestive Systems</u>
Wednesday, July 27	Male & Female Reproductive Systems;
Monday, August 1, 2015 (Week #8)	Review for Final Examination
Wednesday, August 3	<u>FINAL EXAMINATION</u>

RAD 232 TOPICAL OBJECTIVES

I. Anatomy of the Cranium (Osteology of the Skull)

A. Instructional Methodologies

- | | |
|-------------------------------|------------------------|
| 1. Lecture/Slide presentation | 3. Reading assignments |
| 2. Dry skull demonstrations | 4. Workbook activities |

B. Assignments

1. Merrill's 13th ed., Vol. 2, Chapter 20
2. Merrill's Workbook Volume 2, Chapter 20:

C. Objectives

1. Given a diagram of the following cranial bones, locate the given structures with 85% accuracy or better.

a. Frontal Bone

- | | |
|---------------------------------|----------------------|
| (1) Glabella | (6) Frontal sinuses |
| (2) Superciliary arch | (7) Ethmoid notch |
| (3) Supraorbital margins | (8) Frontal eminence |
| (4) Supraorbital foramen | (9) Orbital plate |
| (5) Frontal spine (Nasal Spine) | |

b. Ethmoid Bone

- | | |
|--------------------------------|----------------------------|
| (1) Crista galli | (5) Superior nasal conchae |
| (2) Perpendicular plate | (6) Middle nasal conchae |
| (3) Lateral masses (Labyrinth) | (7) Vomer |
| (4) Cribriform plate | (8) Ethmoid sinuses |

c. Parietal Bones

- | | |
|-----------------------|-----------------------|
| (1) Sagittal suture | (4) Parietal eminence |
| (2) Lambdoidal suture | (5) Squamosal suture |
| (3) Coronal suture | (6) Cranial vertex |

d. Occipital Bone (Occiput)

- | | |
|----------------------|------------------------|
| (1) Foramen magnum | (5) Jugular foramen |
| (2) Inion | (6) Jugular process |
| (3) Cerebellar fossa | (7) Occipital condyles |
| (4) Cerebral fossa | |

e. Sphenoid Bone

- | | |
|-----------------------|----------------------------------|
| (1) Sphenoid sinus | (8) Lesser wings |
| (2) Sella turcica | (9) Anterior clinoid processes |
| (3) Tuberculum sellae | (10) Greater wings |
| (4) Dorsum sellae | (11) Foramen rotundum |
| (5) Foramen spinosum | (12) Foramen ovale |
| (6) Optic groove | (13) Posterior clinoid processes |
| (7) Optic canal | (14) Pterygoid processes |

f. Temporal Bone

- | | |
|-----------------------|-------------------------------------|
| (1) Squamous portion | (5) Mastoid air cells |
| (2) Zygomatic process | (6) Mastoid tip |
| (3) Mandibular fossa | (7) Petrous apex |
| (4) Styloid process | (8) Petrous pyramid (Petrous ridge) |

2. Define these words as they apply to skull anatomy.
 - a. skull topography
 - b. skull morphology
 - c. cranial base (floor of skull)
 - d. cranial vault
3. Explain the difference between skull, cranium & calvarium.
4. Identify the bones that comprise the cranial base.
5. Identify the bones that comprise the calvarium.
6. State the location & bones that comprise
 - a. the Bregma
 - b. the Lambda
 - c. the Pterion
 - d. the Asterion
7. State the articulations with each of the 8 cranial bones.
8. State skull bones that protect:
 - a. the cerebrum
 - b. the cerebellum
9. What skull bones support the frontal & temporal lobes of the cerebrum?
10. Locate the following localization points on the cranium (skull topography).

a. Acanthomeatal line (AML)	j. Glabella
b. Glabelloalveolar line (GAL)	k. Gonion
c. Glabellomeatal line (GML)	l. Inion
d. Acanthion	m. Mental point
e. Interpupillary line	n. Nasion
f. Outer Canthus	o. Inner Canthus
g. Orbitomeal line (OML)—Radiographic baseline	
h. Infraorbitomeatal line (IOML)—Reid's baseline	
i. External auditory meatus (EAM)—External acoustic meatus	

II. Anatomy of the Facial Bones and Orbits

A. Instructional Methodologies

- | | |
|-------------------------------|------------------------|
| 1. Lecture/Slide presentation | 3. Reading assignments |
| 2. Dry skull demonstrations | 4. Workbook activities |

B. Assignments

1. Merrill's 13th ed., Vol. 2, Chapter 20
2. Merrill's 13th ed., Workbook, Chapter 20
 - a. Mandible
 - b. Facial bones & Mandible
 - c. Facial bones, Orbits & Mandible:
3. Merrill's 13th ed., Workbook, Chapter 21:
 - a. Lateral facial bones
 - b. Parietoacanthial projection – Waters method
 - c. Zygomatic Arches
 - d. Mandible
 - e. Facial bones

C. Objectives

1. Given a diagram of the following facial bones, locate the given structures with 85% accuracy.
 - a. **Nasal bones**
 - b. **Lacrimal bones**
 - c. **Maxillae**

(1) Maxillary sinuses	(3) Anterior nasal spine
(2) Alveolar process	(4) Acanthion
 - d. **Zygomatic bones (Malar bones)**

(1) Zygomatic process of malar bone
(2) Zygomatic process of temporal bone
 - e. **Inferior nasal conchae (Turbinates)**
 - f. **Vomer**
 - g. **Palatine bones**
 - h. **Mandible**

(1) Body	(5) Rami
(2) Mental point	(6) Coronoid process
(3) Alveolar process	(7) Condylod process
(4) Mental foramen	(8) Mandibular notch
2. Identify the bones that comprise the nasal septum.
3. Given a diagram, locate the bones that comprise the orbit.
4. State the articulations of each of the 14 facial bones with 85% accuracy.

III. Anatomy of the Paranasal Sinuses and Cranial Base

A. Instructional Methodologies

- | | |
|-----------------------------------|------------------------|
| 1. Lecture/PPT Slide presentation | 3. Reading assignments |
| 2. Dry skull demonstrations | 4. Workbook activities |

B. Assignments

1. Merrill's 13th ed., Vol. 2:
 - a. Chapter 20
 - b. Chapter 22
2. Merrill's 13th ed., Workbook, Chapter 20:
 - a. Cranial floor
 - b. Submentovertical projection (SMV for cranial base)
3. Merrill's 13th ed., Workbook, Chapter 22 Paranasal sinuses:

C. Objectives

1. Given a diagram of the paranasal sinuses (sinuses), locate the given structures with 85% accuracy.

a. Frontal sinuses	c. Maxillary sinuses
b. Ethmoid sinuses	d. Sphenoid sinuses
2. Given a diagram of the cranial base, locate the given external structures with 85% accuracy.

a. Occipital condyles	h. Hard palate
b. Foramen magnum	i. Zygomatic arch
c. Mandibular fossa	j. Palatine bone
d. Foramen lacerum	k. Petrous ridge
e. Foramen spinosum	l. Mandibular body
f. Foramen ovale	m. Gonion
g. Greater wing of sphenoid	
3. Given a diagram of the floor of the skull (cranial base), locate the given internal structures with 85% accuracy.

a. Crista galli	h. Foramen rotundum
b. Cribriform plate	i. Foramen ovale
c. Lesser sphenoid wing	j. Foramen spinosum
d. Optic groove	k. Jugular foramen
e. Optic foramen (Optic canal)	l. Clivus (Basilar process)
f. Sella turcica	m. Dorsum sellae
g. Foramen lacerum	

IV. Anatomy of the Inner Ear and Mastoids

A. Instructional Methodologies

- | | |
|-----------------------------|------------------------|
| 1. Lecture | 3. Reading assignments |
| 2. Dry skull demonstrations | 4. Workbook activities |

B. Assignments

1. Merrill's 13th ed., Workbook, Chapter 20, Section 1:
 - a. Temporal bone
 - b. Inner ear
 - c. Inner ear & Mastoids

C. Objectives

1. List the differences among the 3 shape and size classifications of the skull (skull morphology).
2. Using the midsagittal plane (MSP) and the petrous pyramids as reference points, state the difference between these 3 skull shapes:
 - a. dolichocephalic skull
 - b. mesocephalic skull
 - c. brachycephalic skull
3. List the 3 main portions of the temporal bone.
4. Given a line diagram or radiographic image, identify the structures of the:

a. external ear	c. inner ear
b. middle ear	
5. Given a line diagram or radiographic image of the temporal bone, identify these specific structures.

a. Squamous portion	e. Mastoid air cells
b. Zygomatic process	f. Mastoid tip
c. Mandibular fossa	g. Petrous apex
d. Petrous pyramid (Petrous ridge)	h. Styloid process
6. For each of these mastoid projections (methods), state the:
 - (1) mastoid process closest to the IR
 - (2) TMJ location relative to the EAM
 - (3) location of the mastoid air cells relative to the EAM

a. Modified Law method	c. Arcelin method
b. Stenvers method	

V. Anatomy of the Biliary System

A. Instructional Methodologies

- | | |
|---------------|------------------------|
| 1. Lecture | 3. Reading assignments |
| 2. PPT Slides | 4. Workbook activities |

B. Assignments

1. Ehrlich & Coakes 8th ed., Chapter 10:
 - a. pg. 315, Table 10-1.
 - b. pp. 323-327, pg. 328, Box 10-4.
2. **Merrill's Atlas 13th edition, Volume 1**
3. **Merrill's Atlas 13th edition, Volume 2: Liver & Biliary System,**

4. **Merrill's/Frank, et al, 13th ed., Workbook, Liver & Biliary System, Chapter 17:**

C. Objectives

1. Identify the specific function of the:
 - a. liver
 - b. gallbladder (GB)
 - c. biliary ductal system
2. Describe the production & storage of bile.
3. Given a line diagram or radiographic image of the biliary system, identify these specific structures.
 - a. liver
 - b. gallbladder
 - c. cystic duct
 - d. common hepatic duct
 - e. common bile duct
 - f. hepatopancreatic ampulla
4. Given a line diagram or radiographic image of the biliary system, identify these specific structures.
 - a. hepatic arteries
 - b. hepatic veins
 - c. lobes of the liver
 - d. porta hepatus
5. Describe the location of spleen & pancreas.
6. Using your medical dictionary, name the blood chemistry tests that are significant in patients having a cholecystogram.
7. Given these body habitus, discuss the effect of body habitus on the location of the gallbladder.
 - a. sthenic
 - b. hyposthenic
 - c. asthenic
 - d. hypersthenic
8. Identify alternative modalities that are used to visualize the biliary system.
9. List the advantages of each of these modalities, as they relate to imaging the gallbladder.
 - a. Gallbladder sonography
 - b. Oral cholecystogram

VI. Anatomy of the Digestive System

A. INSTRUCTIONAL METHODS

1. Lecture & Handouts
2. Discussion
3. Reading & Workbook ASSIGNMENTS:
4. Demonstration
5. Radiographs

B. ASSIGNMENTS:

1. **Ehrlich & Coakes, 8th ed., Chapter 9, pp. 289-309.**
2. **Ehrlich & Coakes, 8th ed., Chapter 10, pg. 316, Table 10-1.**
3. **Merrill's Atlas 13th edition, Volume 1, pp. 70-74.**
4. **Merrill's Atlas 13th edition, Volume 2:**

- a. Abdomen:
 - b. Upper GI, Chapter 17
 - c. Small Bowel, Chapter 17
 - d. Colon, Chapter 17
- 5. Merrill's/Frank, et al, 13th ed., Workbook:**
- a. Abdomen, Chapter 3**
 - b. Abdomen, Chapter 16:**
 - c. Alimentary Canal Chapter 17:**
 - d. Upper GI, Chapter 17:**
 - e. Small Bowel, Chapter 17:**
 - f. Colon, Chapter 17:**

C. Objectives

1. Given a diagram and/or radiograph of the stomach, locate the following anatomical parts:

a. cardiac orifice	d. greater curvature
b. pyloric antrum	e. lesser curvature
c. body	

2. Given a diagram and/or radiograph of the small intestine, locate the following anatomical parts:

a. duodenum	c. ileum
b. jejunum	d. ileocecal valve

3. Given a diagram and/or radiograph of the large intestine (colon), locate the following anatomical parts:

a. cecum	e. splenic flexure
b. descending colon	f. ascending colon
c. hepatic flexure	g. sigmoid colon
d. transverse colon	h. rectum

4. Define the following terms as they relate to the digestive system.

a. esophagram	i. small bowel series
b. barium swallow	j. barium enema
c. cardiac series	k. peritoneum
d. UGI series	l. mesentary
e. cathartic	m. omentum
f. volvulus	n. intussusception
g. appendicitis	o. appendectomy

2. **Ehrlich & Coakes, 8th ed**
3. **Merrill's Atlas 13th edition, Volume 1**
4. **Merrill's Atlas 13th ed., Volume 2: Urinary System**
5. **Merrill's/Frank, et al, 13th ed., Workbook: Urinary System, Ch. 18:**

C. Objectives, Urinary System

1. Using your medical dictionary, define these blood chemistry tests that are significant in patients scheduled for an intravenous urogram.
 - a. BUN
 - b. creatinine
 - c. glomerular filtration rate (GFR)
2. Given a diagram and/or radiograph of the urinary system, locate the following anatomical parts:
 - a. kidneys
 - b. urinary bladder
 - c. ureters
 - d. urethra
 - e. adrenal glands
3. Define the following terms as they relate to the urinary system.
 - a. urography
 - b. nephroptosis
 - c. micturition
 - d. excretory urography
 - e. urination
 - f. ureters
4. List two alternate names for urography & excretory urography.
5. Describe the blood supply to and from each kidney.
6. List and describe the structural and functional unit of the kidney.
7. Describe the location and function of the ureters.
8. List and describe the three locations of constriction along the course of each ureter.
9. Describe the function of the urinary bladder.
10. Given various radiographs or line drawings, identify all anatomy of the:
 - a. urinary system.
 - b. female reproductive system
 - c. male reproductive system
11. In relation to the urinary bladder, describe the location of the:
 - a. uterus
 - b. ovaries
 - c. prostate gland
 - d. fallopian tubes
 - e. seminal vesicles
 - f. pubic bone
12. List the purposes and seven indications for excretory urography.

13. Demonstrate proper patient preparation for excretory urography.
14. Describe the information obtained from the IVP scout film.
15. Describe the "ten-day" rule and discuss its importance in radiographic exams of the abdomen and body systems. (See Bushong physics book, pp. 608-610).

Building Emergency Response Protocols

University's Emergency Procedure Clause:

Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on campus, available on BERT's website at www.bert.siu.edu, Department of Public Safety's website www.dps.siu.edu (disaster drop down) and in the Emergency Response Guideline pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. **It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.** The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.

Disabled Students:

Instructors and students in the class will work together as a team to assist disabled students out of the building safely. Disabled students will stay with the instructor and communicate with the instructor what is the safest way to assist them.

Earthquake:

In the event of an earthquake you are advised to take cover quickly under heavy furniture or near an interior wall, a corner, to avoid falling debris. Outside the building are trees and power lines and debris from the building itself that you will need to stay away from. In the building, large open areas like auditoriums are the most dangerous. Do not try to escape on a stairway or elevator. Do not hide under a stairway. We **do not** recommend that you stand in a doorway because the door could shut from the vibrations and crush your fingers trapping you there.

Fire:

During the fall semester we have a **Fire Drill**. Pick up your belongings and your instructor will lead you to either the North or South parking lot depending on what part of the building your class is in. You must stay with your instructor so he/she can take roll calls. As soon as the building is all clear, you will be allowed to return to class.

These drills are to train instructors and the Building Emergency Response Team to get everyone to a safe place during an emergency.

Tornado:

During the spring semester we have a **Storm Drill**. Pick up your belongings and your instructor will lead you to a safe area of the basement. No one will be allowed to stay upstairs. Stay away from windows. The drill should not last more than 10 minutes. You must stay with your instructor so he/she can take roll calls. Students need to be **quiet in the basement** as the BERT members are listening to emergency instructions on handheld radios and cannot hear well in the basement.

Bomb Threat:

If someone calls in a bomb threat, class is suspended and students will be asked to pick up their belongings, evacuate the building and leave the premises. Do not leave anything that is yours behind. We will not allow anyone back into the building until the police and bomb squad give us an all clear. **DO NOT USE YOUR CELL PHONES**. Some bombs are triggered by a cell phone signal.

Shooter in the Building:

When it is safe to leave, move to a safe area far from the building where the shooter is located. If you have any information about the shooter, please contact the police after you return home. If you cannot leave, go into a room, lock the door, turn out the lights, and if possible, cover the glass on the door. Silence all cell phones after one person in the room you are in calls the police and informs them of your location and how many are in the room. Be quiet and wait for the police to arrive. The police are looking for one or more shooters, and they have no way of knowing if the shooter is in the room with you. For that reason, when the police enter the room, no one should have anything in his/her hands and each person **MUST** raise his/her hands above his/her head.

Women's Self-Defense Class:

For interested female students and female faculty and staff, the SIU Public Safety Department sets up free self-defense classes. The SIU Public Safety Department will be teaching this class. They teach a free class in the fall and spring at the Rec Center. In the fall you would register at the Rec Center for the Women's Self-Defense Class or RAD (Rape Aggression Defense) as it is sometimes called. If you have questions about registering for the class, you can send an email to lavong@siu.edu. LaVon is the contact in the Dean's Office in the Communications building that will assist you to try to find the class you need.