Radiographic Sciences

Course Learning Outcomes are measurable statements that are used to identify the specific knowledge and skills that a student should have at the end of a course.

RS 1105
L1- Explain the importance of having a thorough understanding of the technical aspects of radiologic technology.
L2- Name the sources of information that most patients use when choosing a hospital.
L3- List the inside and outside customers served by the health care facility.
L4- Describe quality care from the patient's perspective.
L5- List high-tech and high-touch aspects of health care.
L6- Explain what is meant by a "moment of truth."
L7- Outline a customer service cycle for a radiologic examination.
L8- List ways to enhance telephone conversations.
L9- Define empathy.
L10 -Be able to use the conflict resolution model in customer service and high stress situations.
L11- Identify needs common to all human beings.
L12- Describe physiologic needs and their effect on learning.
L13-Describe psychological needs and how you maintain a healthy social interaction with others
L14- Describe the way you perceive the world and your unique pattern of behavior for satisfying your needs.
L15- Examine your lifestyle to identify causes of stress and conflict.
L16- Examine your values and determine what is and what is not important to you.
L17- Describe ways in which conflict may be resolved.
L18- Set goals and plan for a lifestyle that has meaning, serenity, and a sense of wholeness.
L19- Recall historical persons and their relationships to early discoveries.
L20 -Discuss the circumstances surrounding the discovery of x-rays, their early use, and development over the years since their discovery.
L21- Understand the role of the radiographer as part of the medical team and be aware of ethical as well as medical and legal concerns regarding health care delivery.
L22- Appreciate the roles of various agencies in regard to certification, accreditation, and continuing education.
L23- Understand the uses and operation of various types of x-ray equipment to include an understanding of various x-ray procedures and the fundamentals of exposure technique.
L24- Appreciate and understand the need for safe radiation protection habits to include an understanding of the dangers of radiation, and radiation sensitivity.
L25- Become familiar with various career options available to the graduate radiographer.
L26- Demonstrate an appreciation for the Radiography Program at Idaho State University by passing several quizzes designed to test your knowledge of the program.
L27- Develop an understanding of several Imaging Modalities by navigating through a Web site designed for this purpose.
L28- Be able to answer several questions that students ask concerning the profession by visiting the FAQ section on the Radiographic Science Program web site.
L29- Understand the process of matriculation at Idaho State University by navigating a Web site which contains the program guide.
L30- Develop a working knowledge of the Moodle software.

RS 3310
L1- Identify the two divisions of the skeletal system and list the total number of bones in the average adult human.
L2- Describe the three bone classifications and list examples of each classification.
L3- Describe the ossification process and the primary and secondary bone formation centers.
L4- Classify joints by their functional and structural characteristics, describe the three classes and subclasses of joints, and give examples of the six movement types of synovial joints.
L5- Define and use basic positioning terminology to include general terminology, body planes, body surfaces, specific body position, relationship terms, and terminology related to movement.
L6- Explain the similarities and differences for these terms: positions, projections, and views.
L7- Describe the process of evaluating a radiograph for positioning accuracy and image quality.
L8- Explain the importance of anatomical side markers and proper radiograph identification.
L9- List the specific annual dose limiting recommendations of whole-body effective dose for the general population and for occupationally exposed workers.

L10- Explain the ALARA principle.
L11- Explain the two general rules of determining positioning routines and apply these principles to specific structures of the body.
L12- Demonstrate the proper way of displaying radiographs for viewing on a computer monitor or a viewbox.
L13- Identify basic radiographic anatomy for the bony thorax, respiratory system, larynx, trachea, right and left bronchi, lungs, and mediastinum.
L14- Describe the position considerations when performing chest radiography.
L15- Determine the breathing instructions required for performing chest radiography.
L16- List reasons why chest radiograph should be performed erect.
L17- Given several chest radiographs determine if they are adequate to turn in by a technologist for radiologist interpretation.
L18- Identify the central ray location for chest radiography.
L19- Choose the appropriate technical factors for chest radiography.
L20 List several pathologic indications for chest radiography.
L21- Learn the basic and special projections of the chest including: PA and Lateral, Supine and Erect, Decubitus, Lordotic, and Obliques.
L22- Identify basic radiographic anatomy of the abdomen including the: a. abdominal muscles, b. the organ systems, c. digestive system, d. accessory digestive organs, e. urinary system, f. abdominal cavities, g. quadrants and regions, and h. topographic landmarks.
L23- Describe position considerations when performing abdominal radiography.
L24- Determine proper breathing instructions when performing abdominal radiography.
L25- List several positioning considerations the technologist should consider prior to performing abdominal radiography.
L26- Identify the central location for abdominal radiography.
L27- List several pathologic indications for abdominal radiography.
L28- Choose the appropriate technical factors for abdominal radiography.
L29- Learn the basic and special projections of the abdomen including: PA prone, Lateral decubitus, Erect AP, Dorsal decubitus (lateral), Lateral, and the Acute abdominal series.
L30-Identify, both on electronic media provided by the instructor and on radiographs, specific anatomy of the upper limb. This anatomy includes: Hand and wrist, Joints of the hand, Carpals, Forearm, Distal humerus, Classification of joints, and Fat pad signs.

L31- List and describe the location, size and shape of each carpal bone of the wrist.
L32- Identify, by name, classification and movement type, specific joints of the upper limb.
L33- For all basic and special projections, list the technical factors and the central ray locations for the thumb, fingers, hand, wrist, forearm, elbow and humerus.
L34- Describe which structures are best seen with basic and special projections of the upper limb.
L35- Choose the appropriate technical factors for upper limb radiography.
L36- List the names and location of the radiographically significant fat pads and stripes of the wrist and elbow and describe how these are used by the radiologist in interpreting radiographs.
L37- Describe the criteria or means of evaluating the radiograph for an accurate and true lateral elbow position.
L38- With electronic media created by the instructor and on radiographs, identify specific anatomy of the proximal humerus and shoulder girdle as described in the textbook. This includes the: Proximal humerus, Shoulder girdle, Clavicle, Scapula, and Classification of Joints.
L39- Describe anatomical relationships of prominent structures of the proximal humerus and the shoulder girdle as described in the textbook.
L40- Choose the appropriate technical factors for upper humerus and shoulder radiography.
L41- List and describe basic and special projections of the proximal humerus and shoulder to include: the type and size of film holder, the central ray location with correct angles, and the structures best demonstrated.

RS 3311
L1- On drawings and radiographs, identify specific anatomy of the foot, ankle, leg, knee, patella and femur.
L2- Describe specific joints and anatomical relationships of the foot, ankle, and knee.
L3- Identify specific joints of the foot, ankle, leg and knee according to the correct classification and movement type.
L4- Describe the basic and special projections of the toes, foot, ankle, calcaneus, knee, patella, intercondylar fossa and femur to include CR placement and angulation, correct film size and placement, part positioning, technical factors, and evaluation criteria.
L5- Demonstrate in a lab setting all of the exams covered in this chapter. On drawings and radiographs, identify specific anatomy of the hips and pelvis.
L6- Describe the location of the major landmarks of the pelvis and hip, and two methods of locating the femoral head and neck on an AP hip and pelvis.
L7- Describe the structural and functional differences of the greater and lesser pelvis, and the structural difference between male and female pelvis.
L8- Identify the correct classification and movement type for the joints of the pelvis.
L9- Identify the correct pickup chambers when using AEC for hip and pelvis projections.
L10 Determine if a pelvis or hip represents a true AP position based on the established evaluation criteria.
L11- Describe and list those projections of the female pelvis and/or hips for which gonadal shielding should be used and how such shields should be placed.
L12- Describe the basic projections, type and size of film holder, central ray location and anatomy best demonstrated for radiographic examinations of the hips, pelvis and sacroiliac joints.
L13 -Determine the gender of the patient from radiographs of the pelvis.
L14- Demonstrate in a lab setting positioning for each of the exams covered in this chapter.
L15- On drawings and radiographs identify specific anatomy of the vertebral l16-column, vertebral curvatures, vertebra, joints in the vertebral column, cervical vertebrae, atlas (C1) and axis (C2), thoracic vertebrae, intervertebral foramina, and zygapophyseal joints.
L16- Identify topographic landmarks of the cervical and thoracic spine.
L17- Identify and describe the basic and special projections for the cervical spine including: AP, open mouth, obliques, lateral, trauma lateral and swimmers' projections.
L18- Identify and describe the basic and special projections for the thoracic spine including the AP, Lateral, and Oblique.
L19- Demonstrate in lab setting positioning for each of the exams covered in this chapter.
L20 -"Determine when a hyperflexion and hyperextension study of the cervical spine should be performed.
L21- Describe the Fuch, Judd, and Ottonello methods.
L22- On drawings and radiographs identify specific anatomy of the following: lumbar vertebrae, sacrum, and coccyx.
L23- Determine the classification of joints described in this chapter.
L24- Identify topographic landmarks of the lumbar spine, sacrum, and coccyx.
L25- Identify and describe the basic and special projections for the lumbar spine, sacrum, and coccyx.
L26- Demonstrate in a lab setting positioning for each of the exams covered in this chapter.
L27- Describe the Ferguson method as it pertains to Scoliosis.
L29- Describe the importance of Right and Left bending radiographs in addition to hyperextension and hyperflexion laterals as they relate to spinal fusion imaging.
L30- On drawings and on radiographs identify specific anatomy as it relates to this chapter. This includes the following anatomy: esophagus, stomach, duodenum, body habitus, common radiographic procedures, and the oral cavity and pharynx.
L31- Determine the contrast media employed for procedures covered in this chapter and identify the meaning of a "Double Contrast Study".
L32- Describe how the student radiographer can protect him/herself with regards to radiation when performing the exams listed in this chapter.
L33- Identify the basic and special projections for the esophagram and upper GI series.

RS 3312
L1- On drawings and radiographs, identify specific anatomy as it relates to this chapter. This includes the following anatomy: duodenum, jejunum, ileum, ileocecal valve, cecum, ascending colon, right colic (hepatic) flexure, transverse colon, left colic (splenic) flexure, descending colon, sigmoid colon, rectum, and anal canal.
L2- Describe the proper "patient preparation" required for a Small Bowel Series (SBS) and Barium Enema (BE) examination.
L3- Determine the correct type of contrast media utilized for exams covered in this chapter and explore Single Contrast vs. Double Contrast procedures.
L4- Describe the basic and special projections of the SBS and BE examinations to include CR placement and angulation, correct image receptor size and placement, part positioning, and evaluation criteria.
L5- Describe methods the student radiographer can employ to safely work and effectively reduce radiation exposure to themselves and their patient when performing fluoroscopy examinations such as SBS or BE.
L6- Identify the correct technical factors and/or AEC photo-cell placement for imaging the lower GI system.
L7- Demonstrate in a lab setting positioning for each of the exams covered in this chapter.
L8- On drawings, radiographs, and disarticulated bones identify specific anatomy of the bony thorax, sternum, and ribs.
L9- Describe and identify the location of the major landmarks of the bony thorax.
L10 -Describe the differences between true ribs, false ribs, and floating ribs.
L11- Describe and identify the anterior and posterior articulations of the bony thorax.

L12- Describe the proper application of technical factors when utilizing a breathing technique for an RAO sternum.
L13- Describe the “point of interest” technique when performing a rib series.
L14- Describe the differences between choosing a 40” or 72” SID when performing a rib series.
L15- Identify the correct technical factors and/or AEC photo-cell placement for imaging ribs both above and below the diaphragm.
L16- Describe the basic projections of the bony thorax, sternum, and ribs to include CR placement and angulation, correct image receptor size and placement, part positioning, and evaluation criteria.
L17- Discuss erect versus recumbent positioning when performing a rib series.
L18- Demonstrate in a lab setting positioning for each of the exams covered in this chapter.
L19- On drawings, radiographs, and disarticulated bones identify specific anatomy of the skull and cranial bones.
L20- Identify topographic landmarks and positioning lines of the skull and cranial bones.
L21- Identify the coronal, sagittal, squamosal, and lambdoidal sutures.
L22- Describe and identify skull morphology classifications (mesocephalic, brachycephalic, and dolichocephalic).
L23- Identify, describe, and perform the basic and special projections for the skull and cranial bones including: AP Axial (Towne Method), Lateral, PA Axial (Caldwell Method), PA 0°, SMV, and PA Axial (HaasMethod).
L24- Demonstrate correct CR placement and angulation, correct image receptor size and placement, part positioning, and evaluation criteria when performing skull and cranial bone examinations.
L25- Describe modifications to the routine examination that are employed when a trauma skull series is performed.
L26- Discuss erect versus recumbent positioning for skull and cranial bone examinations.
L27- Identify the correct technical factors and/or AEC photo-cell placement for imaging the skull and cranial bones.
L28- Discuss and employ radiation safety practices to utilize when imaging the head to reduce the patient dose received to the eye and thyroid areas.
L29- Demonstrate in a lab setting positioning for each of the exams covered in this chapter.
L30- On drawings, radiographs, and disarticulated bones identify specific anatomy of the (14) facial bones and paranasal sinuses.
L31- Identify topographic landmarks and positioning lines of the facial bones and paranasal sinuses.
L32- Describe, identify, and perform the basic and special projections for the facial bones and paranasal sinuses including: AP Axial (Towne Method), Lateral, PA Axial (Caldwell Method), PA 0°, SMV, Parietoacanthial (Waters Method), Modified Waters Method, Trans-oral Waters Method, Parietoorbital (Rhese Method), Panorex, and axiolateral projections.
L33- Demonstrate correct CR placement and angulation, correct image receptor size and placement, part positioning, and evaluation criteria when performing facial bone and paranasal sinus examinations.
L34- Describe the osteomeatal complex and the communication of the sinus cavities.
L35- Identify when each of the sinus cavities develop.
L36- Discuss erect versus recumbent positioning for the facial bones and paranasal sinus examinations.
L37- Identify the correct technical factors and/or AEC photo-cell placement for imaging the facial bones and paranasal sinuses.
L38- Discuss and employ radiation safety practices to utilize when imaging the head to reduce the patient dose received to the eye and thyroid areas.
L39- Demonstrate in a lab setting positioning for each of the exams covered in this chapter.
L40- On drawings and on radiographs identify specific anatomy as it relates to this chapter. This includes the following anatomy: kidneys, ureters, bladder, urethra.
L41- Determine the different types of contrast media employed for procedures covered in this chapter and examine non-ionic vs. ionic contrast media.
L42- Identify the basic and special projections for the IVU, retrograde pyelogram, and voiding cystogram.
L43- Describe how the student radiographer prepares for urinary procedures including: contrast questionnaire, informed consent form, checking lab values (BUN, creatinine), venipuncture, contrast injection (only to be performed by the supervising technologist).
L44- Describe the premedication procedure for a patient that has a known prior allergy to contrast media.
L45- Describe and identify symptoms of a patient experiencing a mild reaction, moderate reaction, severe reaction, or organ-specific reaction when administering iodinated contrast media.
L46- Describe what is meant by extravasation and the suggested treatment protocol.
L47- Describe and identify the need for a fully stocked emergency response cart.

L48- Evaluate successful venipuncture in the antecubital fossa by observing a flashback using a butterfly needle.
L49- Identify the correct technical factors and/or AEC photo-cell placement for imaging the urinary system.
L50 -Demonstrate correct CR placement and angulation, correct image receptor size and placement, part positioning, and evaluation criteria when performing urinary system examinations.
L51- Demonstrate in a lab setting positioning for each of the exams covered in this chapter.

RS 3325
L1- BLS CPR Certification (adult, child, infant).
L2- Identify and demonstrate effective non-verbal and verbal communication techniques.
L3- Describe the Code of Ethics that guides radiographers.
L4- Discuss the Patient’s Bill of Rights.
L5- Participate in “Back School” and demonstrate effective patient transfer techniques including: bed, imaging table, wheelchair, or stretcher transfers.
L6- Describe how to break the chain of infection.
L7- Demonstrate effective hand washing.
L8- Demonstrate the use of multiple PPE’s (gloves, gown, mask).
L9- Describe methods used to evaluate a patient’s physical status.
L10- Demonstrate how to perform a complete patient assessment including: temperature, pulse, respiration rate, blood pressure.
L11- Describe normal ranges for the following: temperature, pulse, respiration rate, blood pressure.
L12- Demonstrate oxygen and suction system set up and maintenance and demonstrate proper use.
L13- Describe the role of the radiographer in performing documentation including: charting and incident reporting.
L14- Describe the process required to hang an IV bag.
L15- Demonstrate reading the label and drawing up a medication.
L16- Identify and describe the routes of drug administration.
L17- Identify needles by correct gauge size.
L18- Identify catheters and feeding tubes by correct French size.
L19- Describe the patient’s preparation for barium or iodinated contrast media studies.
L20- Describe the purpose of a contrast questionnaire.
L21- Discuss ionic and non-ionic contrast media.
L22- Describe adverse contrast media reactions including: mild, moderate, severe.
L23- Describe the steps required to perform venipuncture.
L24- Demonstrate effective venipuncture by obtaining a flashback.
L25- Describe the steps required to don a sterile gown and gloves.
L26- Demonstrate donning a sterile gown and gloves.

L27- Demonstrate preparing a sterile tray.
L28- Describe the radiographer's role in imaging in the surgery suite.
L29- Discuss the role of the radiographer during emergency or trauma situations.

L30- Discuss the role of the radiographer when performing portable or bedside radiography.
L31- Describe common commercial immobilization devices (Pigg-O-Stat, Tam-em board, papoose board) and evaluate their function.
L32- Describe and demonstrate the use of ancillary immobilization devices (tape, sponges, sandbags, stockinette or ace bandage, mummy wraps.
L33- Identify effective methods of reducing patient and radiographer exposure during imaging procedures (collimation, low dosage techniques, limit repeat exposures).

RS 3330
L1- Identify the exposure factors and how they relate to each other; specifically, distance, mAs, kVp, grids, and receptor sensitivity.
L2- Discover the relationship of mAs/kVp and exposure to the image receptor as it relates to digital systems.
L3- Calculate receptor exposure maintenance by using the reciprocity law, 15% rule, grid factor/bucky factor, and SID.
L4- Describe the relationship of contrast as it relates to high/short gray scale, and low/long gray scale.
L5- Discover how contrast is related to anatomical structures and how it changes when pathology and contrast media is introduced into the body.
L6- Explain why beam quality is controlled by kVp and filtration.
L7- Determine how scatter radiation degrades image contrast and how it can be controlled via beam limitation, grids, and air gap techniques.
L8- Demonstrate how the choice of image receptors influences contrast.
L8- Describe the relationship between brightness, window width and level, and how ambient light in the viewing area can impinge on displayed contrast.
L9- Define spatial resolution.
L10 -Explain the factors that influence spatial resolution; in particular, motion, geometric factors (blur width, geometric unsharpness, edge gradient), receptor (spatial resolution, light diffusion), and noise/mottle.
L11- Understand the types of distortion according to shape (foreshortening/elongation) and size (geometric magnification).
L12- Appreciate how distance and tube/part/image receptor relationships produce distortion.
L13- Determine how kVp and image receptor types change exposure latitude.
L14- List the function and purpose of beam-limiting devices.
L15- List 4 types and applications of beam-limiting devices.
L16-List 4 types of beam filtration.
L17- Determine the function and mechanism of beam filtration devices.
L18- Discover the purpose of compensating filters.
L19- Explain the impact of filtration on image characteristics.
L20 -Compare and contrast filtration vs. HVL.
L21- Understand the factors that influence scatter and secondary radiation; specifically: kVp, contrast agents, the patient, beam limitation, grids, and OID – air gap technique.
L22- Explain the effects of scattered and secondary radiation as it relates to effective patient dose, subject contrast, image quality, and occupational exposure.

L23- Appreciate the function and construction of grids.
L24- Compare and contrast the following types of grids: focused, parallel, linear, crossed, moving, stationary, short dimension, and long dimension.
L25- Discuss the characteristics of grids by considering the focal distance/radius, focal range, ration, frequency, lead content, grid/bucky factor, contrast improvement factor, and selectivity.
L26- Discuss the selection of grids by considering kVp values selected, patient or type of exam, beam limiting devices employed, and alignment latitude issues.
L27-Determine the meaning of primary cutoff as it relates to grid usage.
L28- Describe the purpose of exposure factor formulation as it relates to standardization of receptors and image consistency.
L29- Compare and contrast 4 types of exposure factor formulation systems, i.e. optimum kVp/variable mAs, variable kVp/fixed mAs, automated exposure, and anatomically programmed radiography.

RS 3340
L1- Show the course instructor the proper warm up procedures for radiographic rooms 1 and 2 in the lab.
L2- Demonstrate the ability to use the darkroom properly, which includes turning the processor on and off, safelight operation, film bin usage, and developing an exposed film.
L3- Memorize all of the imaging receptors by size and film type/speed.
L4- Demonstrate to the course instructor the proper procedure used to imprint patient demographic information when using "film screen" radiology.
L5- Manipulate the x-ray tubes, tables, bucky devices, detents, and stretchers in both exam rooms.
L6- Demonstrate the following positions or angles on phantoms, peers, and/or the instructor: PA, AP, AP oblique with medial rotation, PA oblique with lateral rotation, mediolateral projection of the ankle, lateromedial projection of the wrist, spine, prone, Trendenlenburg, Fowlers, Modified Sims, erect and recumbent RAO, LAO, LPO, RPO, right and left lateral decubitus, dorsal decubitus, ventral decubitus, tangential, lordotic, inferosuperior axial, dorsoplantar, parietoacanthial, cepahalic and caudad tube tilts.
L7- Manipulate the x-ray phantoms and peers into appropriate positions for basic radiographic positions described in the corresponding chapter.
L8- Manipulate the x-ray phantoms and peers into appropriate positions for radiographic examination of the chest.
L9- Determine the appropriate exposure values for chest radiography performed in the department against the upright bucky with AEC, and performed without a bucky in a wheelchair or stretcher utilizing manual techniques.
L10 - Expose phantoms for a chest exam in the following positions: AP supine, AP semi-erect on a stretcher, lordotic supine with the tube tilt method, left and right lateral decubitus, and obliques.
L11- Determine the correct cassette size, patient ID window placement, and marker placement.
L12- Position a lab partner and IR properly according to body habitus.
L13- Manipulate the radiographic tube and table so that vertical, longitudinal, or horizontal detents are attained.
L14- Determine the correct exposure factors of (kV, time, mA) according to accepted methods.
15- Demonstrate the use and value the importance of radiation protection by use of gonadal shields, lead aprons, and appropriate questions to patients.
L16- Label radiographs for anatomy presented in this chapter.
L17- Analyze radiographs for accuracy of positioning and/or technique.
L18- Critique radiographs based on evaluation criteria provided in the textbook.
L19- Manipulate the x-ray phantoms and peers into appropriate positions for radiographic examination of the Abdomen.
L20 -Determine the appropriate exposure values for abdominal radiography performed in the department in a bucky utilizing AEC and manual techniques.
L21- Expose phantoms for abdominal exams in the following positions: AP supine, APerect, left lateral decubitus, dorsal decubitus, and obliques.
L22- Position a lab partner and IR properly according to body habitus.
L23- Determine the correct cassette size, patient ID window placement, and marker placement.
L24- Manipulate the radiographic tube and table so that vertical, longitudinal, or horizontal detents are attained.
L25- Determine the correct exposure factors of (kV, time, mA) according to accepted methods.
L26- Demonstrate the use and value the importance of radiation protection by use of gonadal shields, lead aprons, and appropriate questions to patients.
L27- Label radiographs for anatomy presented in this chapter.

L28- Analyze radiographs for accuracy of positioning and/or technique.
L29- Critique radiographs based on evaluation criteria provided in the textbook and provided by the instructor.
L30- Manipulate the x-ray phantoms and peers into appropriate positions for routine and non-routine, radiographic examination of the fingers, hand, wrist, forearm, and elbow.
L31- Determine the appropriate exposure values for upper limb radiography using manual techniques.
L32- Expose phantoms for upper limb radiography and obtain acceptable radiographs approved by the course instructor.
L33- Position a lab partner and IR properly according to body habitus.
L34- Determine the correct cassette size, patient ID window placement, and marker placement for CR and analog systems.
L35- Manipulate the radiographic tube for routine and non-routine positions including cross table positioning.
L36- Demonstrate the use and value the importance of radiation protection by use of gonadal shields, lead aprons, and appropriate questions to patients.
L37- Label radiographs for anatomy presented in this chapter.
L38- Analyze radiographs for accuracy of positioning and/or technique.
L39- Critique radiographs based on evaluation criteria provided in the textbook and provided by the instructor.
L40- Manipulate the x-ray phantoms and peers into appropriate positions for routine and non-routine, radiographic examination of the humerus and shoulder girdle.
L41- Determine the appropriate exposure values for the humerus and shoulder girdle using manual techniques.
L42- Expose phantoms for the exams presented in this chapter and obtain acceptable radiographs approved by the course instructor.
L43- Position a lab partner and the IR properly according to body habitus.
L44- Demonstrate how to perform a “breathing technique” for a transthoracic of the humerus by using a lab partner.
L45- Determine the correct cassette size, patient ID window placement, and marker placement for CR and analog systems.
L46- Manipulate the radiographic tube for routine and non-routine positions including cross table and axial positioning.
L47- Demonstrate the use and value the importance of radiation protection by use of gonadal shields, lead aprons, and appropriate questions to patients.
L48- Label radiographs for anatomy presented in this chapter.
L49- Analyze radiographs for accuracy of positioning and/or technique.
L50- Critique radiographs based on evaluation criteria provided in the textbook and provided by the instructor.

RS 3341
L1- Manipulate the x-ray phantoms and peers into appropriate positions for radiographic examination of the lower limbs.
L2- Determine the appropriate exposure values for lower limb radiography performed as table top exams.
L3- Expose phantoms for lower limb radiography for the following exams: digits, foot, calcaneus, ankle, and tibia/fibula, knee, sunrise, and intercondylar fossa.
L4- Simulate the following positions: AP weight-bearing, Rosenburg method, Camp Coventry, Holmblad, Merchant method, Settegast method, Hughston method, Superoinferior sitting tangential method of the knee.
L5- Determine the correct cassette size, patient ID window placement, and marker placement.
L6- Position a lab partner and IR properly according to body habitus.
L7- Determine the correct exposure factors of (kV, time, mA) according to accepted methods.
L8- Demonstrate the use and value the importance of radiation protection by use of gonadal shields, lead aprons, and appropriate questions to patients.
L9- Label radiographs for anatomy presented in this chapter.
L10- Analyze radiographs for accuracy of positioning and/or technique.
L11- Critique radiographs based on evaluation criteria provided in the textbook.
L12- Manipulate the x-ray phantoms and peers into appropriate positions for radiographic examination of the femur and pelvic girdle.
L13- Determine the appropriate exposure values for femur and pelvic girdle radiography.
L14-Expose phantoms for a femur and pelvic girdle in the following positions: AP and lateral femur, AP pelvis, Modified Cleaves method, pelvic inlet and outlet (Taylor method), Judet method, Danelius-Miller method, unilateral frog, Clements-Nakayama method.
L15- Determine the correct cassette size, patient ID window placement, and marker placement
L16- Position a lab partner and IR properly according to body habitus.
L17- Manipulate the radiographic tube and table so that vertical, longitudinal, or horizontal detents are attained.
L18- Determine the correct exposure factors of (kV, time, mA) according to accepted methods.
L19- Demonstrate the use and value the importance of radiation protection by use of gonadal shields, lead aprons, and appropriate questions to patients.
L20- Label radiographs for anatomy presented in this chapter.
L21- Analyze radiographs for accuracy of positioning and/or technique.
L22- Critique radiographs based on evaluation criteria provided in the textbook.
L23- Manipulate the x-ray phantoms and peers into appropriate positions for radiographic examination of the cervical and thoracic spine. This will include all routine and nonroutine positions.
L24- Determine the appropriate exposure values for spine radiography performed in and outside of a bucky utilizing AEC and manual techniques.
L25- Expose phantoms for cervical and thoracic radiography in the following positions: AP, RPO, LPO, x-table lateral, breathing technique lateral thoracic spine, swimmers.
L26- Position a lab partner and IR properly according to body habitus.
L27- Determine the correct cassette size, patient ID window placement, and marker placement.
L28- Manipulate the radiographic tube and table so that vertical, longitudinal, or horizontal detents are attained.
L29- Determine the correct exposure factors of (kV, time, mA) according to accepted methods.
L30- Demonstrate the use and value the importance of radiation protection by use of gonadal shields, lead aprons, and appropriate questions to patients.
L31- Label radiographs for anatomy presented in this chapter.
L32- Analyze radiographs for accuracy of positioning and/or technique.
L33- Critique radiographs based on evaluation criteria provided in the textbook and provided by the instructor.
L34- Manipulate the x-ray phantoms and peers into appropriate positions for radiographic examination of the lumbar spine, sacrum and coccyx. This will include all routine and nonroutine position
L35- Determine the appropriate exposure values for spine radiography performed in and outside of a bucky utilizing AEC and manual techniques.
L36- Expose phantoms for lumbar spine, sacrum coccyx radiography and obtain acceptable radiographs approved by the course instructor.
L37- Position a lab partner and IR properly according to body habitus.
L38- Determine the correct cassette size, patient ID window placement, and marker placement for CR and analog systems.
L39- Manipulate the radiographic tube for routine and non-routine positions including cross table positioning.
L40- Demonstrate the use and value the importance of radiation protection by use of gonadal shields, lead aprons, and appropriate questions to patients.
L41- Label radiographs for anatomy presented in this chapter.
L42- Analyze radiographs for accuracy of positioning and/or technique.
L43- Critique radiographs based on evaluation criteria provided in the textbook and provided by the instructor.

L44- Manipulate the x-ray phantoms and peers into appropriate positions for routine and nonroutine, radiographic examination of the biliary and upper gastrointestinal systems.
L45- Determine the appropriate exposure values for the biliary and upper gastrointestinal systems.
L46- Expose phantoms for the exams presented in this chapter (minus contrast) and obtain acceptable radiographs approved by the course instructor.
L47- Position a lab partner and the IR properly according to body habitus.
L48- Determine the correct cassette size, patient ID window placement, and marker placement for CR and analog systems.
L49- Manipulate the radiographic tube for routine and non-routine positions including cross table and axial positioning.
L50- Demonstrate the use and value the importance of radiation protection by use of gonadal shields, lead aprons, and appropriate questions to patients.
L51- Label radiographs for anatomy presented in this chapter.
L52- Analyze radiographs for accuracy of positioning and/or technique.
L53- Critique radiographs based on evaluation criteria provided in the textbook and provided by the instructor.

RS 3342
L1- Manipulate the x-ray phantoms and peers into appropriate positions for routine lower gastrointestinal system examinations.
L2- Expose phantoms for lower GI examinations in the following positions or projections: AP, PA, RAO, LAO, RPO, LPO, AP Axial (butterfly), lateral rectum, lateral decubitus, ventral decubitus.
L3- Position a lab partner and image receptor properly according to body habitus.
L4- Utilize the correct image receptor (DR or CR), and marker placement.
L5- Manipulate the radiographic tube and table so that vertical, longitudinal or horizontal detents are attained.
L6- Determine the correct exposure factors of (kV, mA, time) according to accepted methods.
L7- Demonstrate the use of radiation protection by use of collimation, distance, gonadal shields, lead aprons, and through appropriate instructions or questions to patients.
L8- Label radiographs for anatomy presented in this chapter.
L9- Analyze radiographs for accuracy of positioning and/or technique.
L10- Critique radiographs based on evaluation criteria provided in the textbook and provided by the instructor.
L11- Manipulate the x-ray phantoms and peers into appropriate positions for radiographic examination of the bony thorax, sternum, and ribs.
L12- Expose phantoms in the following positions: RAO sternum, lateral sternum, and ribs above and below the diaphragm - PA, AP, oblique.
L13- Discuss the importance in performing a PA chest x-ray in addition to a rib series examination.
L14- Determine the correct image receptor size and correct marker placement.
L15- Position a lab partner and image receptor properly according to body habitus.
L16- Manipulate the radiographic tube and table so that vertical, longitudinal, or horizontal detents are attained.
L17- Determine the correct exposure factors of (kV, mA, time) according to accepted methods.
L18- Demonstrate the use and value the importance of radiation protection by use of collimation, distance, gonadal shields, lead aprons, and through appropriate instructions or questions to the patient.
L19- Label radiographs for anatomy presented in this chapter.
L20- Analyze radiographs for accuracy of positioning and/or technique.
L21- Critique radiographs based on evaluation criteria provided in the textbook.
L22- Manipulate the x-ray phantoms and peers into appropriate positions for radiographic examinations of the skull and cranial bones.
L23- Expose phantoms for skull and cranial bone exams in the following positions or projections: AP Axial (Towne Method), lateral, PA Axial (Caldwell Method), PA 0°, SMV, and PA Axial (Haas Method).
L24- Perform a trauma skull series with the phantom wearing a cervical collar.
L25- Determine the correct image receptor size and correct marker placement.
L26- Manipulate the radiographic tube and table so that vertical, longitudinal, or horizontal detents are attained.
L27- Manipulate the radiographic tube for routine and non-routine positions including cross table positioning.
L28- Determine the correct exposure factors of (kV, mA, time) according to accepted methods.
L29 -Demonstrate the use and value the importance of radiation protection by use of collimation, distance, gonadal shields, lead aprons, and through appropriate instructions or questions to the patient.
L30- Label radiographs for anatomy presented in this chapter.
L31- Analyze radiographs for accuracy of positioning and/or technique.
L32- Critique radiographs based on evaluation criteria provided in the textbook and provided by the instructor.
L33- Manipulate the x-ray phantoms and peers into appropriate positions for the facial bones and paranasal sinuses.
L34- Expose phantoms for the facial bones and paranasal sinuses in the following positions or projections: AP Axial (Towne Method), lateral, PA Axial (Caldwell Method), PA 0°, Parietoacantial (Waters), Modified Parietoacantial (Modified Waters), SMV, Parietoorbital (Rhese Method), and axiolateral obliques.
L35- Determine the correct image receptor size and correct marker placement.
L36- Manipulate the radiographic tube and table so that vertical, longitudinal, or horizontal detents are attained.
L37-Manipulate the radiographic tube for routine and non-routine positions including cross table positioning.
L38- Determine the correct exposure factors of (kV, mA, time) according to accepted methods.
L39- Demonstrate the use and value the importance of radiation protection by use of collimation, distance, gonadal shields, lead aprons, and through appropriate instructions or questions to the patient.
L40- Label radiographs for anatomy presented in this chapter.
L41- Analyze radiographs for accuracy of positioning and/or technique.
L42- Critique radiographs based on evaluation criteria provided in the textbook and provided by the instructor.
L43- Manipulate the x-ray phantoms and peers into appropriate positions for routine urinary system examinations (VCUG, IVU, retrograde pyelogram).
L44- Expose phantoms for the exams presented in this chapter in the following positions: AP, PA, RPO, LPO, lateral.
L45- Perform a contrast history questionnaire on a peer.
L46- Position a lab partner and the image receptor properly according to body habitus.
L47- Discuss the importance of timing IVU examinations.
L48- Determine the correct image receptor size and correct marker placement.
L49- Determine the correct exposure factors of (kV, time, mA) according to accepted methods.
L50- Demonstrate successful venipuncture in the antecubital fossa by obtaining a flashback using a butterfly needle.
L51- Demonstrate the use and value the importance of radiation protection by use of gonadal shields, lead aprons, and through appropriate instructions or questions to the patient.
L52- Label radiographs for anatomy presented in this chapter.
L53- Analyze radiographs for accuracy of positioning and/or technique.
L54- Critique radiographs based on evaluation criteria provided in the textbook and provided by the instructor.

RS 3375

L1- Discuss and recognize the different types and ages of pediatric patients to include: neonates, infants, toddlers, preschool children, school aged children, and adolescents.
L2- Identify effective non-verbal and verbal communication techniques to utilize when imaging pediatric patients.
L3- Discuss pediatric patient "preps" and how they may differ from adults.
L4- Discuss environmental modifications imaging departments can make to reduce the anxiety levels of pediatric patients (see Primary Children's Medical Center Imaging Department for exemplary examples).
L5- Discuss the utilization of a treasure box (stickers, small stuffed toys) to be given at the completion of the examination.
L6- Describe common commercial immobilization devices (Pigg-O-Stat, Tam-em board, papoose board) and describe their function.
L7- Describe and demonstrate the use of ancillary immobilization devices (tape, sponges, sandbags, stockinette or ace bandage, mummy wraps.
L8- Identify effective methods of reducing patient and guardian doses during pediatric imaging procedures (collimation, low dosage techniques, limit repeat exposures).
L9- On the x-ray console, appropriately set exposure techniques (manual, AEC, or APR) for the following scenarios: AP chest on a 1 month old baby PA chest on 2 year old in Pigg-O-Stat PA chest on 7 year old at upright bucky PA chest on 16 year old at upright bucky.
L10- Discuss "cumulative effects of radiation" and why this is of utmost concern for pediatric patients.
L11- Describe how to correctly apply shaped contact shields and lead aprons when imaging pediatric patients.
L12- Discuss and examine the purpose of the Image Gently campaign.
L13- Discuss the use of non-ionizing imaging modalities such as MRI or US when clinically appropriate.
L14- Describe the term non-accidental trauma (NAT) and discuss the radiographer's role in performing a complete skeletal survey.
L15- Examine normal bone development (ossification) from birth to adulthood
L16- Examine common respiratory pathology of the pediatric patient to include: aspiration, asthma, croup, cystic fibrosis, hyaline membrane disease, and pneumonia.
L17- Examine common abdominal pathology of the pediatric patient to include: pyloric stenosis, imperforate anus, volvulus, intussusception, Hirschsprung's disease, polycystic kidney disease, Wilms' tumor, urinary tract infection, and vesicouretal reflux.
L18- Examine common skeletal system pathology of the pediatric patient to include: craniostenosis, hydrocephalus, osteogenesis imperfecta, osteopetrosis, osteomalacia, developmental dysplasia of the hip, club foot, and spina bifida.

RS 3388
L1- Provide sound justification and reasoning for good radiation protection measures.
L2- Identify the differences between somatic and genetic effects of radiation.
L3- Discuss the concept of effective radiation protection.
L4- Determine the potential biological damage that may occur with exposure to ionizing radiation.
L5- Identify the differences between stochastic and nonstochastic effects of radiation exposure.
L6- Explain the function of the radiation safety committee (RSC) in medical facility and describe the role of the radiation safety officer (RSO) by listing the various responsibilities he or she must fulfill.
L7- Discuss the importance of documentation, occupational and nonoccupational dose limits, ALARA concept, comparable risk and negligible individual dose (NID) as it relates to a radiation protection program.
L8- Define the following terms: Exposure (Coulomb/kilogram and Roentgen), absorbed dose (Gray and Rad), Kerma, Dose equivalent (Sievert and Rem), CT dose index, Multiple scan average dose in CT, Dose length produce (DLP), Radioactivity (Becquerel and Curie.
L9- Become familiar with the U.S. Nuclear Regulatory Commission (NRC) Regulations (10 Code of Federal Regulations [CFR]) part 20 Standards for Radiation Protection.
L10- List dose quantities as specified by the National Council on Radiation Protection and Measurement (NCRP) Guidelines concerning dose quantities (effective dose, collective effective dose, and average effective dose to an individual).
L11- Differentiate between radiation detectors (area monitors and personal detectors).
L12- Become familiar with the Regulatory/Advisory agencies and regulations and the different types of surveys required to monitor controlled and uncontrolled areas.
L13- Discuss the following regulatory agencies and their role in radiation safety: NRC, FDA, EPA, OSHA, and state agencies.
L14- Discuss the following advisory agencies and their role in radiation safety: ICRP, NRCP, BEIR.
L15-Discuss personnel monitoring from a historical perspective including the requirements for personnel monitoring and the different types of personnel monitors in use (film badge, TLD, OSLD, ring badge, etc).
L16- Understand records of accumulated dose by reviewing reports of students in the program and ISU.
L17- List the effective dose limits of occupational exposure, nonoccupational exposure, critical organ sites and dose limits to the embryo and fetus.
L18- Determine the responsibilities for radiation protection from the standpoint of the radiographer, RSO, and the facility.
L19- List several design applications that can be used to protect humans from exposure to ionizing radiation in a hospital setting, i.e. materials, barriers, HVL, controlled and uncontrolled areas, beam limiting devices, exposure control devices, on off switches, interlocks, visual/audio monitors, emergency controls, etc.
L20 -Discuss the current NRC recommendations and/or regulations.
L21- Discuss the current NCRP recommendations and/or regulations.
L22- Determine if there are any state regulations.
L23- Discuss Public Law 97-35 (The Patient Consumer Radiation and Safety Act of 1981) and the CARE bill.
L24- Argue the importance in time, distance, and shielding when providing radiation protection to patients and self.
L25- List the methods that can be employed to protect the patient from unnecessary exposure, i.e. beam-limiting devices, filtration, shielding, and exposure factors.

RS 3389
L1- Demonstrate in a clinical setting what has been taught in a laboratory experience at the college.
L2- Evaluate a radiographic requisition.
L3- Prepare the exam room and assess the patient by using patient management skills which have been taught didactically.
L4- Use radiographic markers to appropriately mark the side of anatomy.
L5- Demonstrate safe radiation safety practices.
L6- Adapt standard radiographic practices to varying clinical situations.
L7- Demonstrate professional behavior.
L8- Set technical factors to produce diagnostic images.
L9- Critique radiographic images performed in a clinical setting.

RS 3390
L1- Demonstrate in a clinical setting what has been taught in a laboratory experience at the college.
L2- Evaluate a radiographic requisition.
L3- Prepare the exam room and assess the patient by using patient management skills which have been taught didactically.
L4- Use radiographic markers to appropriately mark the side of anatomy.
L5- Demonstrate safe radiation safety practices.

L6- Adapt standard radiographic practices to varying clinical situations.
L7- Demonstrate professional behavior.
L8- Set technical factors to produce diagnostic images.
L9- Critique radiographic images performed in a clinical setting.

RS 4430
L1- Define basic pathology related terms.
L2- Identify diseases caused by or contributed to by genetic factors.
L3- Identify diseases caused by or contributed to by environmental factors.
L4- Describe the healing process.
L5- Discuss examples of additive and destructive diseases and exposure technique alterations required by the radiographer.
L6- Examine and discuss NOVA's Cancer Warrior and describe the term angiogenesis.
L7- Describe common characteristics of benign and malignant neoplasms.
L8- Under instructor supervision, perform a core needle biopsy on an apple and examine the specimens obtained.
L9-Describe multiple specialized imaging procedures used in diagnosing disease processes (US, CT, MRI, NM, PET, angiography, cardiology, mammography).
L10- Identify anatomic structures on diagrams and radiographs of the chest, skeletal system, GI system, and urinary system.
L11- Describe the physiology and function of the respiratory system, skeletal system, GI system, and urinary system.
L12- Differentiate common pathologic disorders and identify radiographic manifestations presented in chapters 3-6.
L13- Discuss the use of non-ionizing imaging modalities such as MRI or US when clinically appropriate.
L14- Identify anatomic structures on diagrams and radiographs of the cardiovascular system, nervous system, hematopoietic system, endocrine system, and reproductive system.
L15- Describe the physiology and function of the cardiovascular system, nervous system, hematopoietic system, endocrine system, and reproductive system.
L16- Differentiate common pathologic disorders and identify radiographic manifestations presented in chapters 7-11.
L17- Discuss the purpose and process of placing stents in cardiology.
L18- Discuss cardiac CT for calcium scoring.
L19- Discuss the use of non-ionizing imaging modalities such as MRI or US when clinically appropriate.

RS 4441
L1- On drawings and radiographs, identify specific urinary system anatomy.
L2- Identify anatomy and positioning routines for urinary system exams, with emphasis placed on contrast media and urography.
L3- Describe the following diagnostic procedures: Intravenous urography, nephrogram, nephrotomogram, hypertensive intravenous urography, retrograde urography, retrograde cystography, voiding cystourethrography, retrograde urethrography.
L3- On drawings and radiographs, identify specific skeletal anatomy of the entire skeleton.
L4- Identify anatomy and positioning routines for ALL upper and lower extremity exams, chest, bony thorax, abdomen, skull, and facial bones, with emphasis placed on special imaging positions for these exams.
L5- Describe the types of mobile x-ray systems available for bedside and emergency radiography.
L6- Develop an understanding of a mobile C-arm digital fluoroscopy system and define the following terms: magnification mode, roadmapping, scout fluoro, process fluoro, boost digital spot.
L7- List the exposure levels and patterns when the C-arm is placed in the PA, AP, and horizontal positions and determine the orientation that yields the greatest dose and the least dose to the operators.
L8- Evaluate and describe the 3 positioning principles for trauma and mobile radiography.
L9- Describe common trauma and fracture terminology including but not limited to dislocations, sprain, fractures, and types of fractures, specific named fractures, and post reduction radiographs.
L10- Memorize the Salter Harris classification of fractures.
L11- Identify the positions, CR relationship, angulation, and evaluation criteria for all of the exams presented in this chapter.
L12- Present a PowerPoint presentation to the class on one of the fractures presented in the chapter.
L13- Describe the essential attributes of a surgical technologist.
L14- List the members of a surgical team.
L15- Review the principles of surgical asepsis.
L16- Describe the process of placing a sterile field around a C-arm.
L17- Identify the process of passing an IR from a non-sterile environment to a sterile environment.
L18- Describe several methods that can be used in the OR to reduce exposure to the surgical team.
L19- List several surgical procedures that are performed with the C-arm.
L20 -Review the following surgical radiographic procedures: Operative (immediate) cholangiogram, laparoscopic cholecystectomy, retrograde urography, and orthopedic procedures.
L21- Explain the meaning of closed reduction, open reduction, internal fixation, external fixation, and intramedullary fixation.
L22- Describe the imaging equipment used for the setup for a hip fracture.
L23- Identify the differences radiographically between a total hip replacement and a hip pinning.
L24- Describe the set up for an intramedullary nail or rodding procedure.
L25- Describe the set up for a laminectomy procedure in the cervical, thoracic, and lumbar spine.
L26- Determine the meaning of spinal stenosis and spinal fusion and explain the reason an interbody fusion cage might be used during a procedure in the OR.
L27- Describe a microdiskectomy, vertebroplasty, kyphoplasty, and scoliosis corrective surgery.
L28- Identify the different types of pacemakers. On drawings and radiographs, identify specific anatomy of the biliary system, female reproductive system, spinal cord, salivary glands and ducts, and joints of the shoulder and knee.
L29- Describe the following diagnostic procedures: Knee arthrography, shoulder arthrography, t-tube cholangiography, ERCP, hysterosalpingography, myelography, sialography, orthoroentgenography, conventional tomography.
L30- Identify the purpose, pathologic indicators, contraindicators, patient preparation, major equipment, accessory equipment, needle placement and injection process, contrast media used, and fluoroscopic and/or overhead imaging used for all of the procedures listed in this chapter.

RS 4450
L1- Become acquainted with the research resources available to ISU students in the Obler Library and online.
L2- Describe the principles of each of the alternate imaging modalities presented in this course and the advances that have been made in each modality during the past few years.
L3- Contrast and compare the advantages and disadvantages of each of the alternate imaging modalities presented in this course.
L4- Develop expertise in APA style of writing.
L5- Write several annotated bibliographies from peer reviewed journals on a topic of research that involves the imaging modalities presented by guest lecturers.
L6- Write a 8-10 page literature review type paper on a topic relating to radiographic science that has been approved by the instructor.
L7- List 2 or 3 of the alternate imaging modalities that he/she may be interested in pursuing during post baccalaureate study.

RS 4455

L1- This course will study the alternate imaging modalities of computed tomography (CT), nuclear medicine (NM), ultrasonography (US), magnetic resonance imaging (MRI), angiography, mammography, and radiation therapy (RT). The pedagogy will examine the mechanics and basic physics of each modality. The instruction will involve outside lectures from professionals working in each modality.

RS 4460
L1- Understand the need for QA/QC.
L2- Understand the difference between QA, QC, QM.
L3- Become familiar with the basic administrative responsibilities of a QM program.
L4- Understand imaging equipment function and its importance in creating quality images as well as performing QC testing.
L5- Learn and apply the performance tests for radiographic equipment.
L6- Understand digital imaging characteristics and specific QC issues related to digital imaging.
L7- Understand the importance of repeat analysis studies in QM.
L8- Learn to identify poor quality images and what corrective action needs to be taken for the repeat.
L9- Be able to perform and analyze results of QA/QC testing and recommend corrective action for the following: Timer, Focal spot, kVp, HVL, Collimator/ beam alignment, and X-ray generator.
L10- Design and carry out an experimental research project as part of a small group effort.
L11- Present the results of the research project in a poster presentation format.

RS 4470
L1- Review fundamental principles of radiographic exposure technique.
L2- Become familiar with the basic principles of computed radiography (CR), and digital radiography (DR).
L3- Understand the processes used for the creation/application of technique charts and utilizing APR technique charts.
L4- Interpret exposure indicator (EI) numbers (i.e. lgM, S).
L5- Review the operation of Automatic Exposure Control (AEC) systems.
L6- Understand the principles of fluoroscopy, image intensification, and cinefluoroscopy.
L7- Identify emerging technology on the horizon in medical imaging.
L8- Explore applications of non-medical uses of medical imaging.

RS 4475
L1- Determine the requirements of eligibility to sit for the national registry exam.
L2- Review and discover the method to apply for and schedule the ARRT exam. This includes photo ID considerations and associated application fees.
L3- Learn about the testing centers requirements and procedures to take the exam.
L4- Discover the mechanism utilized by the ARRT for candidates to comply with the Rules of Ethics contained in the ARRT Standards of Ethics.
L5- Review the 3-year limit for eligibility to sit the ARRT exam.
L6- Discover how pilot questions are used to develop test materials for future testing candidates.
L7- Determine how disclosing exam information is considered an attempt to subvert the integrity of the examination.
L8- Review the test center restrictions.
L9- Determine the outline of topics covered by the exam.
L10 - Review the four content areas covered by the ARRT exam: patient care (33 questions), safety (53 questions), image production (50 questions), and procedures (64 questions).
L11- Discover areas of weakness and perform remedial study to improve in each area of content that may need remedial study.
L12- Successfully pass several mock examinations covering each of the content areas individually and collectively.
L13- Successfully pass a proctored mock registry final exam with a 75% or higher score.

RS 4488
L1- Demonstrate in a clinical setting what has been taught in a laboratory experience at the college.
L2- Evaluate a radiographic requisition.
L3- Prepare the exam room and assess the patient by using patient management skills which have been taught didactically.
L4- Use radiographic markers to appropriately mark the side of anatomy.
L5- Demonstrate safe radiation safety practices.
L6- Adapt standard radiographic practices to varying clinical situations.
L7- Demonstrate professional behavior.
L8- Set technical factors to produce diagnostic images.
L9- Critique radiographic images performed in a clinical setting.

RS 4489
L1- Demonstrate in a clinical setting what has been taught in a laboratory experience at the college.
L2- Evaluate a radiographic requisition.
L3- Prepare the exam room and assess the patient by using patient management skills which have been taught didactically.
L4- Use radiographic markers to appropriately mark the side of anatomy.
L5- Demonstrate safe radiation safety practices.
L6- Adapt standard radiographic practices to varying clinical situations.
L7- Demonstrate professional behavior.
L8- Set technical factors to produce diagnostic images.
L9- Critique radiographic images performed in a clinical setting.

RS 4490
L1- Demonstrate in a clinical setting what has been taught in a laboratory experience at the college.
L2- Evaluate a radiographic requisition.
L3- Prepare the exam room and assess the patient by using patient management skills which have been taught didactically.
L4- Use radiographic markers to appropriately mark the side of anatomy.
L5- Demonstrate safe radiation safety practices.
L6- Adapt standard radiographic practices to varying clinical situations.
L7- Demonstrate professional behavior.
L8- Set technical factors to produce diagnostic images.
L9- Critique radiographic images performed in a clinical setting