Radiology Staff Meeting – 10/1/2025 Time: 9:00a Location: A-141

Meeting called by	Rendy Petrin, Program Director
Type of meeting	Radiology Team Meeting
Facilitator	Rendy Petrin, Program Director
Note taker	Rendy Petrin, Program Director

Attendees: Rendy Petrin Program Director, Coleen Kubetschek Clinical Coordinator, Michael McNiskin Program Coordinator

Please read: Agenda

Agenda Items

		Presenter	Time allotted
1.	Review of Program Mission Statement	All	5 min
2.	Review of Program Goals	All	10 min
3.	Review of Program Effectiveness Goals and Objectives	All	5 min
4.	Review of Program PLO and SLO	All	10 min
5.	Review of Course Syllabi SLOs	All	60 min
6.	Review of PLO/SLO Calendar	All	5 min
7.	Roundtable Discussion	All	5 min

Discussion

1. **Review of Program Mission Statement:** Current mission statement was reviewed. It is fine for now, but needs to be updated on our program webpage. Rendy ran it through AI and has some recommended changes. Will bring these changes up at next Advisory Committee meeting for discussion.
    a. Follow-up: Rendy to update webpage with current mission statement.
    b. Rendy to bring up proposed new mission statement at January 2026 Advisory Committee meeting
2. **Review of Program Goals:** There are currently 4 program goals. Recommendation is to have 6-9 goals. All staff have reviewed edited current and newly added goals in prior meetings and reviewed once more for agreement.
    a. Follow-up: All agreed to the 7 revised program Learning Outcomes. (**See attached**)
3. **Review of Program Effectiveness Goals and Objectives:** Current program effectiveness goals and objectives were reviewed. All agreed that no changes needed at this time. (**See attached**)
   Also reviewed the effectiveness plan that was posted on Anthology. Staff had input into these and Rendy submitted final on September 30th.
    a. Follow-up: FYI. Staff will review status of posted effectiveness plan and update throughout the academic year.
4. **Review of Program PLOs and SLOs:** Detail about each new PLO was reviewed, discussed, and edited. (**See attached**)
    a. Follow-up: Edits made to PLO and SLO from staff input
5. **Review of Course Syllabi:** Each RTE course syllabus has been reviewed over the last few months. Edits were made as needed to reflect current learning and content. It was noted that none of the syllabi had student learning outcomes listed. All staff worked on their specific courses to add these SLOs to the syllabus. (**See attached**)

a. Follow-up: The group reviewed and discussed each course PLO to make sure it had 2 student learning outcomes and each student learning outcome had 2 benchmarks, and each benchmark had a measurement. This was a lengthy review and discussion.
b. Follow-up: Final tweaks made to each PLO/SLO/Benchmark/Measurement. Rendy will put into a spreadsheet and we will track and input data throughout the academic year

6. **Review of PLO/SLO Calendar:** In order to keep track of what needs to be measured and documented for each PLO/SLO as well as when it needs to be documented, Rendy has developed a calendar that shows who is responsible for each PLO/SLO and when it is due. (**See attached**).
    a. Follow-up: Each staff member will receive the calendar and is responsible for submitting required documentation to Rendy at the end of each specified semester.
7. **Roundtable Discussion:** Nothing further was discussed

Meeting adjourned at 10:40am

Florida SouthWestern State College

Radiologic Technology Program

PROGRAM MISSION

The mission of the Florida SouthWestern State College Radiologic Technology Program is to provide a nationally accredited, high-quality Radiologic Technology learning experience. The program strives for excellence through innovation and continuous improvement while providing career-oriented courses instilling marketable skills and professional expertise to its graduates. Program courses will enable students to enrich their lives socially, culturally, and intellectually as well as providing the community with a workforce that meets the developing needs of the field of Radiography

PROGRAM GOALS

Students will:

- Demonstrate clinical competence by performing as an entry level radiographer
- Apply critical thinking and problem-solving skills
- Effectively communicate with patients, families, and healthcare team members
- Demonstrate professional values and ethics
- Integrate patient care skills
- Apply quality and safety measures
- Demonstrate technological proficiency

PROGRAM EFFECTIVENESS GOALS

- Graduates will pass the national certifying examination.
- Graduates will find employment in the field.
- Graduates will indicate overall satisfaction with the program.
- Students starting the program will complete the program.
- Employers will indicate satisfaction with graduates.
- Graduates will be clinically competent.

PROGRAM OBJECTIVES

Following successful completion of the program, the graduate will be able to:

- Apply knowledge of anatomy, physiology, positioning, and radiographic technique selection to accurately demonstrate anatomical structures on a radiograph or other image receptor.
- Determine exposure factors to achieve optimum radiographic technique with minimum radiation exposure to the patient.
- Evaluate radiographic images for appropriate positioning and image quality.
- Apply the principles of radiation protection to the patient, self, and others.
- Provide patient care and comfort.
- Recognize emergency patient conditions and initiate lifesaving first aid and basic life-support procedures.
- Detect equipment malfunctions, report it to the proper authority and know the safe limits of equipment operation.
- Exercise independent judgment and discretion in the technical performance of medical imaging procedures.
- Provide patient / public education related to radiologic procedures and radiation protection/ safely.
- Describe the basic components of a quality assurance program for diagnostic radiology.
- Demonstrate knowledge and skills relating to verbal, nonverbal, and written medical communication in patient care intervention and professional relationships.

Current Program Learning Outcomes:

1. Students will be able to perform as an entry level radiographer

2. Students will demonstrate critical thinking and problem-solving skills

3. Students will effectively communicate with patients and staff

4. Students will understand the value of professional development and life-long learning

New/Modified Program Learning Outcomes:

Upon successful completion of the Radiologic Technology program:

Program Learning Outcome 1:

Students will demonstrate clinical competence by performing as an entry level radiographer

1. **Student Learning Outcome 1**: Students will create diagnostic quality images that meet established professional standards
    a. Benchmark 1: First year students will pass all Spring semester skills evals in RTE-1513L with a grade of 75% or higher
        i. Measurement: Second semester skills evaluations – annually at end of first Spring Semester RTE-1513L
    b. Benchmark 2: First year students will successfully perform required competencies with a grade of 85% or higher
        i. Measurement: Clinical competency evaluations – annually at end of first Summer C, RTE-1824L
2. **Student Learning Outcome 2**: Students will adapt radiographic positioning techniques and patient care approaches based on age-specific considerations
    a. Benchmark 1: 90% or more of second year students will successfully perform a minimum of 3 radiographic competencies on actual geriatric patients
        i. Measurement: Clinical competency evaluations – annually at the end of the second Fall semester RTE-2834L
    b. Benchmark 2: 90% or more of second year students will successfully perform a chest competency on an actual pediatric patient
        i. Measurement: Clinical competency Evaluations – annually at the end of second Spring semester RTE-2844L

Program Learning Outcome 2:

Students will apply critical thinking and problem-solving skills

1. **Student Learning Outcome 1**: Students will evaluate image quality to select and implement corrective techniques that achieve diagnostic standards while addressing individual patient conditions and needs

    a. Benchmark 1: Second year students will maintain a minimum of 80% on the Image Evaluation (satisfactory for 4 of 5 criterion) portion of all competencies in the spring semester
        i. Measurement: Clinical Competency Evaluations -- Annually, End of second Spring Semester RTE-2844L
    b. Benchmark 2: During trauma competencies in the spring semester of the second year, 90% or more of second year students will be rated as successful on “Properly Evaluates Patient Condition and Alters Patient Position Appropriately” (item 8) on the clinical competency evaluation.
        i. Measurement: Clinical Competency Evaluation Form -- Annually, end of second Spring semester RTE-2844L
2. **Student Learning Outcome** 2: Students will analyze situations to make appropriate professional judgments that prioritize patient safety and image quality
    a. Benchmark 1: 90% or more of second-year students will achieve a rating of “meets standard” on “Good Judgement” of their Final PDA for the spring semester
        i. Measurement: Final Personal Development Assessment - Annually, end of second Spring semester RTE-2844L
    b. Benchmark 2: Employer respondents will Agree or Strongly Agree to the statement "Exercises independent judgement and discretion in the technical performance of medical imaging procedures" (question 8) on the Employer survey at least 90% of the time.
        i. Measurement: Employer Survey – every other year 6 months following graduation

Program Learning Outcome 3:

Students will effectively communicate with patients, families, and healthcare team members

1. **Student Learning Outcome 1**: Students will demonstrate professional communication skills through oral presentations and written documentation
    a. Benchmark 1: Second year students will attain an 85% or higher on an oral presentation conducted in the classroom setting
        i. Measurement: Oral presentation in RTE-2782 -- annually second Spring semester
    b. Benchmark 2: First year students will attain an 85% or higher on a written research assignment conducted in the classroom setting
        i. Measurement: Written research assignment in RTE-1613 -- annually first Spring semester
2. **Student Learning Outcome 2**: Students will adapt communication approaches to meet the needs of patients and healthcare team members in clinical settings
    a. Benchmark 1: First year students in the spring semester will average a rating of 3 (out of 4) or higher on question #1 focused on patient communication on 2 different Bi-weekly Clinical Performance Evaluations (one at midpoint and one at end of clinical course)

        i. Measurement: Two Bi-weekly Student Performance Evaluation -- Annually, end of first Spring Semester RTE-1814L
    b. Benchmark 2: Second year students in the spring semester will average a rating of 2 (out of 3) or higher on question #2 focused on communication with clinical staff on 2 different Bi-weekly Clinical Performance Evaluations (one at midpoint and one at end of clinical course)
        i. Measurement: Weekly Student Performance Evaluation -- Annually, end of second Spring Semester RTE-2844L

Program Learning Outcome 4:

Students will demonstrate professional values and ethics

1. **Student Learning Outcome 1**: Students will develop a personalized professional development plan that incorporates continuing education opportunities in radiologic technology
    a. Benchmark 1: Second year students will receive a satisfactory "pass" grade on a career plan created that includes plans for further professional development
        i. Measurement: Career Plan in RTE-2061 – Annually second Summer semester RTE-2061
    b. Benchmark 2: Second year students will attain a grade of 80% or higher on a written assignment on the value of life-long learning
        i. Measurement: Written assignment in RTE-2385 – Annually second Spring semester
2. **Student Learning Outcome 2**: Students will evaluate various advanced certification pathways in medical imaging to determine appropriate professional growth opportunities
    a. Benchmark 1: 50% or more of graduate respondents will indicate a desire to continue professional development and/or further their education on the Graduate Survey
        i. Measurement: Annually, Graduate Survey question #17, 6 months following graduation
    b. Benchmark 2: 50% or more of graduate respondents will indicate that they are interested in pursuing additional ARRT certifications on the Graduate Survey
        i. Measurement: Graduate Survey – Annually, Graduate Survey question #16, 6 months following graduation

Program Learning Outcome 5:

Students will integrate patient care skills

1. **Student Learning Outcome 1**: Students will analyze patient assessment data to determine appropriate clinical interventions
    a. Benchmark 1: 90% or more of first year students will demonstrate proper methods for taking vital signs

        i. Measurement: Annually first Fall semester, Vital signs skills check-off list completed in RTE-1000
    b. Benchmark 2: 90% or more of first year students will demonstrate the proper way to place and read a pulse oximeter
        i. Measurement: Annually first Fall semester, Vital signs skills check-off list completed in RTE-1000
2. **Student Learning Outcome 2**: Students will implement evidence-based clinical procedures that ensure patient and provider safety in healthcare setting
    a. Benchmark 1: 90% or more of first year students will demonstrate proper patient transfer techniques for patients in wheelchairs and on stretchers moving on and off the x-ray table
        i. Measurement: Annually first Fall semester, simulated Patient transfer skills checklist completed in RTE-1000
    b. Benchmark 2: First year students will demonstrate proper methods of donning and doffing sterile gloves and gowns
        i. Measurement: Annually first Fall semester, Sterile Gloves and Gown skills checklist completed in RTE-1000

Program Learning Outcome 6:

Students will apply quality and safety measures

1. **Student Learning Outcome 1:** Students will apply ALARA principles consistently in clinical practice
    a. Benchmark 1: First year students in the first spring semester will average a rating of 3 (out of 3) on question #10.d "practices proper radiation protection"
        i. Measurement: Annually first Spring semester, a rating of 3 (out of 3) on question #10.d "practices proper radiation protection" on 2 different Bi-weekly Clinical Performance Evaluations in RTE-1814L
    b. Benchmark 2: 90% or more of first year students will rate "satisfactory" in utilization of appropriate collimation on the General Imaging Procedure form
        i. Measurement: Annually first Spring semester, a rating of "satisfactory" on the general imaging procedures competency item #11 "Utilized appropriate collimation" in RTE 1814L
2. **Student Learning Outcome 2:** Students will analyze repeat/reject images to identify patterns and implement strategies to reduce unnecessary radiation exposure
    a. Benchmark 1: Second year students ?QA
        i. Measurement: Annually second Spring semester, RTE-2473
    b. Benchmark 2: 90% or more of second year students will be able to take appropriate corrective measures on a repeated/rejected image
        i. Measurement: Annually second Fall semester, General Imaging Procedure competency form which asks if a repeat was done, did the student take appropriate measures on the repeated image. Yes or No. In RTE-2834L

Program Learning Outcome 7:

Students will demonstrate technological proficiency

1. **Student Learning Outcome 1:** Students will be able to operate digital radiography systems to acquire, process, and archive diagnostic images with minimal input from staff
    a. Benchmark 1: First year students will pass all Summer semester skills evals in RTE-1523L with a grade of 75% or higher
        i. Measurement: Annually first Summer semester skills evaluations RTE-1523L
    b. Benchmark 2: First year students will successfully perform the Control Panel & Accessories competency with a grade of 93% or higher
        i. Measurement: Annually by the end of first Fall semester, Control Panel & Accessories check competency in RTE-1804L
2. **Student Learning Outcome 2:** Students will demonstrate initial competency in at least two advanced imaging modalities (e.g., CT, fluoroscopy, mobile radiography, interventional) by the end of the program
    a. Benchmark 1: Second year students in second year CT rotation can demonstrate the operation of the CT control panel
        i. Measurement: Annually second Fall semester, student will receive a "yes" response to question #4 of the CT evaluation that student can demonstrate operation of the control panel in RTE-2834L
    b. Benchmark 2: Second year students in the second year Interventional Radiology rotation can describe the operation of the interventional/angiographic equipment
        i. Measurement: Annually second Spring semester, students will receive a "yes" response to question #1 of the angiography evaluation that asks about the control panel, image processing, and automatic injector and control in RTE-2844L

Course: RTE 1000, INTRO TO RADIOG &PATIENT CARE (INTRO TO RADIOG &PATIENT CARE)
Section Number: 101
Course Reference Number: 13011
Delivery Method: Traditional
Campus: Lee
Credit Hours: 3 Credits - 3 Lecture Hours
Course Description: This course is an overview of medical imaging and an investigation of patient care techniques applicable to the practicing radiographer. This course includes concepts on becoming a technologist, practicing the profession, and competently performing patient care in the medical environment.
Prerequisites/Co-requisites:
Course Prerequisites: Admission into the Radiologic Technology Program
~~**Course Co-requisites:** RTE 1503/RTE 1503L, RTE 1418~~
Topic Outline:

- Introduction to the history of Radiography and the principles of exposure
- Radiation monitoring, protection, and safety
- Professional Roles and Behaviors
- Professional Attitudes and Communications
- Safety, Transfer, and Positioning
- Infection Control and Prevention of Disease Transmission
- Medical and Surgical Asepsis
- Patient Care and Assessment
- Medications and Their Administration
- Dealing with Acute Situations
- Patient Preparation ~~and Examination of the Gastrointestinal Tract~~ for imaging
- Contrast Media and Special Radiographic Techniques
- Bedside Radiography: Special Conditions and Environments
- Radiography in Surgery
- Special Imaging Modalities

Student Learning Outcomes
All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one's community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.

General Education Competency: **Think**
Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will evaluate the role of the Radiographer within the medical profession and describe the proper professional behaviors.

B. Other Course Objectives/Standards

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

1. Integrate patient care skills
2. Apply radiographic terminology and medical language to accurately communicate within healthcare settings.
3. Analyze the historical development of radiologic technology and its influence on current healthcare practices.
4. Apply fundamental radiation safety principles in simulated radiographic procedures.
5. Differentiate between various imaging modalities and their appropriate applications in diagnostic procedures.
6. Evaluate ethical scenarios using professional standards and legal guidelines in radiologic technology.
7. Analyze the radiologic technologist's role and responsibilities within the interprofessional healthcare team.
8. Demonstrate patient care techniques appropriate for diverse populations in simulated radiographic procedures.
9. Apply patient-centered care principles in various radiographic procedure scenarios.

Course Assessment:

In this course, students will be assessed on ~~eight~~ weekly quizzes, ~~participation in discussion boards~~, competency activities, class participation, and a comprehensive final exam.

Course: RTE 1001, RADIOGRAPHIC TERMINOLOGY (RADIOGRAPHIC TERMINOLOGY)
Section Number: 100
Course Reference Number: 14912
Delivery Method: Traditional
Campus: Lee
Credit Hours: 1 Credits - 1 Lecture Hours
Course Description: This course is the study of the language of medicine which is commonly used in the field of Radiology. It includes the construction, analysis, spelling, application, and pronunciation of medical terms and how they relate to the structure and function of the human body. It explores the use of medical words and abbreviations used in Radiologic procedures, pathophysiology, and case histories.
Prerequisites/Co-requisites:
Course Prerequisites: Admission into the Radiologic Technology Program

Topic Outline:

- Prefixes, suffixes, and basic word forms
- General body structure
- Terminology of the skeletal and muscular systems
- Terminology of the cardiovascular and lymphatic systems
- Terminology of the respiratory system
- Terminology of the digestive system
- Terminology of the urinary system
- Terminology of the reproductive system
- Terminology of the integumentary system
- Terminology of the nervous system
- Terminology of the endocrine system

Student Learning Outcomes
All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one’s community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.

General Education Competency: **Communicate**
Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will define, spell and properly pronounce medical and radiographic terms.

B. Other Course Objectives/Standards

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

1. Integrate medical and radiographic terminology when communicating with healthcare professionals in clinical settings
2. Evaluate the accuracy and appropriateness of radiographic terminology in professional documentation
3. Apply radiographic terminology correctly when documenting patient positioning and procedures
4. Formulate clear and concise technical descriptions of radiographic procedures using correct terminology
5. Adapt radiographic terminology appropriately for different audiences
6. Differentiate between various radiographic positions, projections, and anatomical terms used in medical imaging
7. Analyze radiographic images to identify anatomical structures using proper radiographic terminology

Course Assessment:

In this class, students will be assessed on ~~multiple quizzes and~~ homework assignments, ~~participation in on-line discussions, two~~ unit tests, and a comprehensive final exam.

Course: RTE 1418, PRIN RADIOGRAPHIC EXPOSURE I (PRIN RADIOGRAPHIC EXPOSURE I)
Section Number: 101
Course Reference Number: 13012
Delivery Method: Traditional
Campus: Lee
Credit Hours: 3 Credits - 3 Lecture Hours
Course Description: The course leads the learner through concepts related to radiographic imaging including: beam restriction, grids, radiographic film, processing, sensitometry, intensifying screens, quality factors, and conversion techniques involving manipulation of exposure parameters.
Prerequisites/Co-requisites:
Course Prerequisites: Admission into the Radiologic Technology Program
~~**Course Co-requisites:** RTE 1000, RTE 1503, RTE 1503L~~
Topic Outline:

- The X-Ray Tube
- X-ray Production
- Imaging Quality Factors
- Filtration
- Beam Restriction
- Grids
- ~~Radiographic Film~~ Radiologic Science
- ~~Intensifying Screens~~ Electromagnetic Energy
- ~~Film/Screen Combinations~~ Exposure Control
- ~~Radiographic Density~~ Receptor Exposure
- Radiographic Contrast
- Recorded Detail
- Distortion

Student Learning Outcomes
All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one's community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.

General Education Competency**: Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will apply mathematical principles to determine the proper technical and exposure factors for diagnostic radiographic images.

B. Other Course Objectives/Standards

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

1. Apply radiographic exposure principles to produce diagnostic quality images while minimizing patient radiation exposure
2. Analyze the relationship between technical factors (kVp, mAs, SID) and their effects on radiographic image quality
3. Evaluate radiographic images for technical quality, identifying exposure errors and implementing appropriate corrective measures
4. Formulate appropriate technical factor selections based on patient anatomy, pathology, and equipment capabilities
5. Integrate principles of digital imaging with traditional radiographic concepts to optimize image acquisition
6. Investigate the relationship between exposure indicators and image quality in digital radiography
7. Compare the effectiveness of various exposure techniques for different radiographic procedures and equipment

Course Assessment:

In this course, students will be assessed on ~~eight~~ weekly quizzes, ~~three~~ homework assignments, ~~three~~ unit tests, and a comprehensive final exam.

Course: RTE 1503, RADIOGRAPHIC POSITIONING I (RADIOGRAPHIC POSITIONING I)
Section Number: 101
Course Reference Number: 13013
Delivery Method: Traditional
Campus: Lee
Credit Hours: 4 Credits - 4 Lecture Hours
Course Description: Students learn basic radiographic positioning for the chest, abdomen, upper and lower extremities. Concepts include radiographic anatomy and ~~film~~ image analysis. Radiation protection is stressed and demonstrated for each procedure.
Prerequisites/Co-requisites:
Course Prerequisites: Admission into the Radiologic Technology Program
~~**Course Co-requisites:** RTE 1000, RTE 1503L, RTE 1418~~
Topic Outline:

- ~~Radiology of the chest and abdomen~~
- ~~Radiology of the upper extremities and lower extremities~~
- ~~Radiation protection procedures for each examination~~
- ~~Applied knowledge of what makes a diagnostic-quality radiograph~~

- Radiographic terminology and positioning principles, to include position and projection, positioning considerations, and image receptor placement and central ray direction.
- Radiation protection procedures for each examination, to include ALARA principle application, technical factor selection for dose optimization, and pregnancy considerations.
- Radiography of the chest, to include special imaging of the chest
- Radiography of the Abdomen, to include special imaging of the abdomen
- Radiography of the upper extremities, to include specialized imaging
- Radiography of the lower extremities, to include specialized imaging
- Applied knowledge of what makes a diagnostic-quality radiograph
- Applied radiographic anatomy and pathology

Student Learning Outcomes
All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one's community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports. General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- ~~Students will successfully recognize and understand the human skeletal system and determine the proper radiographic positioning methods to obtain diagnostic images.~~ Students will determine appropriate radiographic positioning techniques for routine examinations of the chest, abdomen, and extremities, and accurately identify anatomical structures on radiographic images and evaluate image quality based on established positioning criteria and technical standards.

B. Other Course Objectives/Standards

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

1. Analyze proper patient positioning techniques for radiographic examinations of the chest, abdomen, and extremities according to established radiographic positioning standards and current ARRT competency requirements.
2. Evaluate and justify appropriate radiation protection practices including shielding, collimation, and technical factor selection to minimize patient exposure while maintaining diagnostic image quality in accordance with ALARA principles.
3. Identify, label, and describe the relationships between normal anatomical structures visualized on radiographic images of the chest, abdomen, and extremities.
4. Evaluate and critique radiographic images of the chest, abdomen, and extremities, demonstrating critical understanding of positioning challenges, radiation protection strategies, and optimal visualization of anatomical structures using established departmental and ARRT criteria to determine diagnostic acceptability, identifying specific positioning errors and formulating appropriate modifications based on patient condition and clinical indications.
5. Calculate and select optimal technical exposure factors (kVp, mAs, SID) for various radiographic examinations based on critical analysis of patient condition, anatomical considerations, and equipment capabilities.
6. Correlate radiographic positioning with radiographic anatomy to enhance understanding of radiographic relationships and improve positioning accuracy for complex anatomical structures.
7. Recognize and adapt standard positioning protocols when encountering common pathological conditions, mobility limitations, or trauma situations that require modifications to positioning techniques or exposure factors while maintaining diagnostic quality and radiation safety principles.
8. Apply critical thinking skills to evaluate clinical decision-making strategies when faced with non-routine patient scenarios, demonstrating critical thinking in selecting appropriate alternative positioning methods.

Course Assessment:

In this course, the student will be assessed on ~~five~~ unit tests, reading/workbook assignments, and a comprehensive final exam.

Note for course RTE 1503L below: There are 3 separate versions of this lab course this semester each held at a different time

Course: RTE 1503L, RADIOGRAPHIC POSITIONING I LAB (RADIOGRAPHIC POSITIONING I LAB)
Section Number: 100
Course Reference Number: 15040
Delivery Method: Traditional
Campus: Lee
Credit Hours: 1 Credits - 3 Lab Hours
Course Description: This course is intended to provide students with hands-on practice of the radiographic procedures as described in RTE 1503. Radiographic procedures include the imaging of the chest, abdomen, upper and lower extremities. Images will be analyzed for proper positioning, technical factors, radiation safety, and legal documentation. Pertinent radiographic anatomy and possible positioning errors will be identified and corrective actions will be determined.
Prerequisites/Co-requisites:
Course Prerequisites: Admission into the Radiologic Technology Program
~~**Course Co-requisites:** RTE 1503~~

Topic Outline:

- Positioning of the Chest, Abdomen, Upper and Lower Extremities
- Radiographic Anatomy of the Chest, Abdomen, Upper and Lower Extremities
- Patient Care, Safety and Transfer
- Equipment Manipulation and Operation
- Image Evaluation with Corrective Actions

Student Learning Outcomes
All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one's community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.
General Education Competency**: Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will properly manipulate radiographic equipment to produce diagnostic images.

B. Other Course Objectives/Standards

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

1. Properly operate, manipulate, and troubleshoot x-ray equipment in the radiology lab
2. Demonstrate proper patient positioning techniques for radiographic examinations of the chest, abdomen, upper and lower extremities
3. Apply radiation protection principles during radiographic positioning procedures to minimize patient and occupational exposure
4. Manipulate radiographic equipment to achieve optimal technical factors for various examinations
5. Adapt standard positioning techniques to accommodate patients with varying physical limitations, or pathological conditions
6. Evaluate radiographic images for proper positioning, anatomical visualization and technical quality
7. Integrate patient care skills with positioning techniques to ensure patient safety and comfort during radiographic procedures
8. Modify positioning techniques based on analysis of radiographic images to improve diagnostic quality
9. Synthesize knowledge of anatomy and positioning principles to solve complex positioning challenges in simulated clinical scenarios

Course Assessment:

In this course, students will be assessed on weekly homework assignments, lab participation, a written final exam, and a practical final exam. ~~completion of clinical competencies, weekly clinical performance evaluations, clinical attendance, and a Personal Development Assessment.~~

Course: RTE 1573, RADIOLOGIC SCIENCE PRINCIPLES (RADIOLOGIC SCIENCE PRINCIPLES)
Section Number: 101
Course Reference Number: 13014
Delivery Method: Traditional
Campus: Lee
Course Description: A course designed to acquaint students with advanced imaging concepts related to Radiologic Technology. Topics covered include: mobile radiography, fluoroscopy, tomography and basic physical concepts related to computed tomography, magnetic resonance imaging, mammography and other imaging modalities. Students learn advanced radiographic procedures including venipuncture, trauma radiography, and pediatric radiography~~, and foreign body localization~~. Special consideration is placed on positioning and exposure techniques that help the radiographer consistently obtain optimum images of human anatomy.
Prerequisites/Co-requisites:
Course Prerequisites: RTE 1457 with a grade of "C" or better
~~**Course Co-requisites:** RTE 1824~~

Topic Outline:

- Mobile Radiography
- Fluoroscopy & Digital Fluoroscopy
- Pharmacology
- Tomography
- ~~Duplication and~~ Subtraction
- Geriatric Imaging
- Pediatric Imaging
- Venipuncture
- Special Spine Studies
- MRI
- Nuclear Medicine
- Radiation Therapy
- ~~Foreign Body Localization~~
- ~~Long Bone Measurement~~
- Mammography & Mammography Quality Control
- Computed Tomography
- Bone Densitometry

Student Learning Outcomes
All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one’s community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.
General Education Competency: **Evaluate**
Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will determine the special procedures and equipment used in tomographic, mobile, digital, trauma, geriatric, and pediatric radiography.

B. Other Course Objectives/Standards

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

1. Explain the physical principles and technical factors of advanced imaging modalities including computed tomography, magnetic resonance imaging, and mammography.
2. Describe proper techniques and protocols for mobile radiography and fluoroscopy, including equipment components, operational considerations, and radiation protection requirements.
3. Identify and explain the procedural steps for venipuncture including equipment, patient preparation, site selection, and potential complications.
4. Analyze and differentiate positioning modifications required for geriatric and pediatric radiography, explaining the rationale for technical adaptations.
5. Articulate radiation protection principles and practices applicable to advanced radiographic procedures, with emphasis on mobile, fluoroscopic, and pediatric examinations.
6. Compare and contrast tomographic principles, explaining how sectional anatomy relationships appear in various imaging planes.
7. Synthesize knowledge of radiographic positioning, exposure factors, and equipment operation to determine optimal approaches for challenging radiographic scenarios presented in case studies.
8. Demonstrate understanding of the professional and ethical considerations relevant to advanced radiographic procedures through classroom discussions.

Course Assessment:

In this course, students will be assessed on ~~six~~ weekly quizzes~~, three~~ unit tests, and a comprehensive final exam.

Course: RTE 1804L, RADIOLOGY PRACTICUM I (RADIOLOGY PRACTICUM I)
Section Number: 100
Course Reference Number: 15190
Delivery Method: Traditional
Campus: Off-site Lee
Credit Hours: 2 Credits - 16 Other Hours
Course Description: This course is designed to provide students with clinical experience in a supervised radiologic setting. The student will put into practice the theories discussed in the accompanying RTE courses. Clinical rotations through selected areas of the Radiology Department allow students to attain experience in patient transportation; operations of the department; radiography room equipment manipulation; image receptor handling and processing; accessory equipment usage; and patient care and safety. The student will demonstrate competence in basic chest ~~and abdomen radiography~~ abdominal, & 2 extremity radiographic procedures and will observe and assist with basic radiographic procedures of the upper extremities and lower extremities under direct supervision by a registered technologist.
Co Prerequisites/Co-requisites:
Course Prerequisites: Admission into the Radiologic Technology, AS program.
~~**Course Co-requisites:** RTE 1000, RTE 1503, and RTE 1418~~
Topic Outline:
Topics to be covered include, but are ~~nit~~ not limited to:

- Professional Communications
- Patient Care, Safety, Transfer, and Positioning
- Equipment manipulation & operation
- Proper use of radiography accessory equipment
- Universal Precautions practices
- Radiographic image production, manipulation, retrieval, and evaluation
- Radiation protection practices
- Bedside Radiography: Special Conditions and Environments
- Radiography of the upper and lower extremities, chest, and abdomen

Student Learning Outcomes
All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one's community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.
General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will properly manipulate radiographic equipment to produce diagnostic images.
- Students will communicate proper instructions to the patient to perform radiographic examinations
- Students will use proper radiation safety techniques and procedures.
- Students will communicate clear instructions to the patient.
- Students will position various body parts for proper radiographic visualization.
- Students will evaluate radiographic images for proper positioning and technical factor selection.

B. Other Course Objectives/Standards

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

1. Demonstrate clinical competence
2. Demonstrate proper patient care techniques and effective communication skills when interacting with patients and family members in the radiology department.
3. Apply radiation safety principles and ALARA (As Low As Reasonably Achievable) concepts to protect patients, self, and others during radiographic procedures.
4. Demonstrate basic and proper positioning of patients for basic routine radiographic examinations of the chest, abdomen, and extremities with assistance utilizing established protocols to achieve proper anatomical visualization on resulting images.
5. Demonstrate competence in the manipulation of radiographic equipment to safely and effectively (including control panel, tube, and table), produce diagnostic images with appropriate selection of technical factors for basic examinations of the chest, KUB, and extremities.
6. Demonstrates competence in routine radiographic imaging of the chest, abdomen, and extremities with minimal assistance utilizing established protocols to achieve proper anatomical visualization on resulting images.
7. Evaluate radiographic images for proper positioning, appropriate technical factors, and diagnostic quality, identifying errors and necessary corrections.
8. Document patient information and examination details accurately in the radiology information system.
9. Demonstrate professional behaviors including teamwork, punctuality, appropriate appearance, ethical conduct, and teamwork in the clinical setting.
10. Recognize and respond appropriately to common medical emergencies that may occur in the radiology department.

Course Assessment:

In this course, students will be assessed on completion of clinical competencies, weekly clinical performance evaluations, clinical attendance, and a Personal Development Assessment.

Course: RTE 2563, SPECIAL RADIOGRAPHIC PROC (SPECIAL RADIOGRAPHIC PROC)
Section Number: 101
Course Reference Number: 13015
Delivery Method: Traditional
Campus: Lee
Credit Hours: 3 Credits - 3 Lecture Hours
Course Description: This course is an investigation of the anatomy, equipment, and techniques for special radiographic procedures. Included are angiographic, neuroradiographic and interventional procedures. Infrequent, but interesting studies are also covered such as lymphography and sialography. Included in this course is an 8-week in-depth study of cross-sectional anatomy as demonstrated by digital imaging techniques.
Co Prerequisites/Co-requisites:
Course Prerequisites: RTE 1523 with a grade of "C" or better
~~**Course Co-requisites:** RTE 1824~~
Topic Outline:

- The ~~Where and What~~ history of Special Procedures
- Myelography
- Long Bone Measurement
- Cerebral Angiocardiography
- Angiocardiography
- Coronary Arteriography
- Aortography
- Renal Arteriography
- Lymphangiography
- Bronchography
- Hysterosalpingography
- Arthrography
- ~~Sialography~~ Venipuncture
- Vascular Interventional Procedures
- Nonvascular Interventional Procedures
- Cross-Sectional Anatomy of the Thorax, Abdomen, Pelvis, and Head/Neck

Student Learning Outcomes
All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one’s community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports. General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will recognize and describe the specialized equipment and methods used in advanced radiographic procedures.

B. Other Course Objectives/Standards

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

1. Analyze cross-sectional anatomy images to identify anatomical structures in multiple planes
2. Differentiate between various special radiographic procedures based on their clinical applications, contraindications, and patient preparation requirements
3. Evaluate the quality of special radiographic images using established technical and anatomical criteria
4. Synthesize knowledge of cross-sectional anatomy with radiographic positioning principles to optimize image acquisition for special procedures
5. Critique the effectiveness of contrast media administration techniques for different special radiographic procedures
6. Construct comprehensive procedural workflows for special radiographic examinations that incorporate patient safety measures and optimal imaging outcomes
7. Adapt positioning techniques for special procedures based on analysis of cross-sectional anatomy and pathological considerations

Course Assessment:

In this class, students will be assessed on ~~multiple quizzes, participation in weekly discussions, a verbal presentation~~, unit exams and a comprehensive final exam.

Course: RTE 2834L, RADIOLOGY PRACTICUM IV (RADIOLOGY PRACTICUM IV)
Section Number: 100
Course Reference Number: 15674
Delivery Method: Traditional
Campus: Off-site Lee
Credit Hours: 3 Credits - 24 Other Hours
Course Description: This course is designed to provide students with clinical experience in a supervised radiologic setting. The student will put into practice the theories discussed in the accompanying RTE courses. Clinical rotations through selected areas of the Radiology Department, CT suite, and the operating room allow students to attain increased proficiency and independence in radiography room equipment manipulation; image receptor handling and processing; accessory equipment usage; contrast media usage and preparation; patient care and safety; fluoroscopy procedures of more critical patients; surgical protocol and procedures; and advanced radiography of acute patients. The student will demonstrate competence in routine spine imaging, imaging of the bony thorax, trauma shoulder, or humerus, Geriatric chest, Geriatric upper or lower extremity, Geriatric hip or spine, and mobile C-arm procedure requiring manipulation around a sterile field. Students will also utilize critical thinking skills in the performance of advanced radiographic procedures on difficult patients. ~~These Level II competencies will include mobile imaging, fluoroscopic procedures, and an exam that is drawn from previous semester's material that a student has proven competent.~~ The student will observe and assist in imaging of the cranium, facial bones, and procedures performed in the CT suite.
Co Prerequisites/Co-requisites:
Course Prerequisites: RTE 1824L with a grade of "C" or better.
~~**Course Co-requisites:**~~
Topic Outline:
Topics for this course include, but are not limited to:

- Professional communications
- Patient care, safety, transfer, and positioning
- Equipment manipulation & operation in the radiography department, mobile units, and operating ~~ ~~room
- Proper use of radiography accessory equipment and contrast media
- Universal precautions practices
- Radiographic image production, manipulation, retrieval, and evaluation
- Radiation protection practices
- Bedside and surgical radiography: special conditions and environments
- Radiographic fluoroscopy procedures, radiography of the spine and bony thorax
- Radiography of the cranium and facial bones

Student Learning Outcomes
All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.

Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one's community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.
General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will properly manipulate radiographic equipment to produce diagnostic images.
- Students will communicate proper instructions to the patient to perform radiographic examinations.
- Students will use proper radiation safety techniques and procedures.
- Students will communicate clear instructions to the patient.
- Students will position various body parts for proper radiographic visualization.
- Students will evaluate radiographic images for proper positioning and technical factor selection.

B. Other Course Objectives/Standards

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

1. Demonstrate clinical competence
2. Demonstrate proper patient care techniques and effective communication skills when interacting with patients and family members in the radiology department.
3. Apply radiation safety principles and ALARA (As Low As Reasonably Achievable) concepts to protect patients, self, and others during radiographic procedures.
4. Demonstrate the ability to apply appropriate modifications for non-routine situations when imaging more acute care patients under indirect supervision utilizing critical thinking skills to develop solutions for challenging clinical situations.
5. Demonstrate specialized skills in the modality of CT imaging utilizing specialized fundamental knowledge of CT equipment and basic exams.
6. Demonstrates continued proficiency in the manipulation of radiographic equipment D
7. Demonstrates competence in routine radiographic imaging of C, T, L spine, sacrum and coccyx, ribs, sternum, trauma humerus, or shoulder, geriatric chest, geriatric upper or lower extremity and geriatric hip or spine, and a surgical C-arm procedure requiring manipulation around a sterile field utilizing established protocols to achieve proper anatomical visualization on resulting images.
8. Evaluate radiographic images for proper positioning, appropriate technical factors, and diagnostic quality, identifying errors and necessary corrections.
9. Document patient information and examination details accurately in the radiology information system.
10. Demonstrate professional behaviors including teamwork, punctuality, appropriate appearance, ethical conduct in the clinical setting.

11. Recognize and respond appropriately to common medical emergencies that may occur in the radiology department.

Course Assessment:
In this course, students will be assessed on completion of clinical competencies, weekly clinical performance evaluations, clinical attendance, and a Personal Development Assessment.

Course: RTE 2834, RADIOLOGY PRACTICUM IV (RADIOLOGY PRACTICUM IV) **THIS COURSE NO LONGER EXISTS Delete and add 2844L listed below**

Section Number: 101

Course Reference Number: 24222

Delivery Method: Traditional

Campus: Off-site Lee

Credit Hours: 3 Credits - 0 Lab Hours - 22.5 Other Hours

Course Description: This course is designed to provide the students with clinical experience in a supervised radiologic setting. The student will put into practice the theories discussed in the accompanying RTE courses. Clinical rotations through selected areas of the Radiology Department, Angiography suite, and the operating room allow students to attain increased proficiency and independence in radiography room equipment manipulation; image receptor handling and processing; accessory equipment usage; contrast media usage and preparation; patient care and safety; and surgical protocol and radiography of more acute patients. The student will demonstrate competence in radiographic procedures of the cranium, facial bones, pediatric imaging of the chest, trauma cervical spine imaging, a selected ARRT radiographic procedure, and a special procedure category. Students will also utilize critical thinking skills in the performance of advanced radiographic procedures on difficult patients. These Level II competencies will include mobile orthopedic imaging, operating room radiologic procedure, and a trauma upper and lower extremity exam that are drawn from previous semester's material in which a student has proven competent. Additionally, students will demonstrate problem solving techniques in the performance of radiographic procedures in which they were previously deemed competent on more acute patients.

Students will attend clinic T, W (4 hrs. in afternoon), & TH.

Course Location

Clinical affiliate locations and times vary. Clinical affiliate site locations, preceptor name, site location, and clinical hours are posted in Canvas pages under affiliates tab.

Prerequisites/Co-requisites

Course Prerequisites: RTE 1824 with a grade of "C" or better

Topic Outline:

- Topics to be covered include, but are not limited to:
- Professional Communications
- Patient Care, Safety, Transfer, and Positioning of more acute patients
- Equipment manipulation & operation in the radiography department, mobile units, operating room, and angiography suite
- Proper use of general radiography and angiography suite accessory equipment and contrast media
- Universal Precautions practices
- Radiographic and angiography image production, manipulation, retrieval, and evaluation
- Radiation protection practices
- Bedside and Surgical Radiography: Special Conditions and Environments
- Advanced Radiography of the upper and lower extremities, advanced imaging of the chest and abdomen, Radiographic fluoroscopy procedures, radiography of the spine and bony thorax
- Radiography of the cranium and facial bones
- Pediatric (6 & under) chest radiography, trauma "cross-table lateral" cervical spine imaging, ARRT elective, and special procedure radiography.

Course Assessment

In this course, students will be assessed on completion of clinical competencies, weekly clinical performance evaluations, clinical attendance, and a Personal Development Assessment.

Course: RTE 2844L, ~~R~~ADIOLOGY PRACTICUM V
Section Number: 101
Course Reference Number: 24222
Delivery Method: Traditional
Campus: Off-site Lee
Credit Hours: 3 Credits - 0 Lab Hours - 22.5 Other Hours
Course Description: This course is designed to provide the students with clinical experience in a supervised radiologic setting. The student will put into practice the theories discussed in the accompanying RTE courses. Clinical rotations through selected areas of the Radiology Department, Angiography suite, and the operating room allow students to attain increased proficiency and independence in radiography room equipment manipulation; image receptor handling and processing; accessory equipment usage; contrast media usage and preparation; patient care and safety; and surgical protocol and radiography of more acute patients. The student will demonstrate competence in radiographic procedures of the cranium, facial bones, pediatric imaging of the chest, trauma lateral ~~cervical~~ spine imaging, ~~a selected ARRT radiographic procedure~~ a C-arm procedure with 2 views, and a Trauma upper and lower extremity procedure ~~special procedure category~~. Students will also utilize critical thinking skills in the performance of advanced radiographic procedures on difficult patients. ~~These Level II competencies will include mobile orthopedic imaging, operating room radiologic procedure, and a trauma upper and lower extremity exam that are drawn from previous semester's material in which a student has proven competent.~~ Additionally, students will demonstrate problem solving techniques in the performance of radiographic procedures in which they were previously deemed competent on more acute patients.
Students will attend clinic T, W (4 hrs. in afternoon), & TH.
Course Location
Clinical affiliate locations and times vary. Clinical affiliate site locations, preceptor name, site location, and clinical hours are posted in Canvas pages under affiliates tab.
Prerequisites/Co-requisites
Course Prerequisites: ~~RTE 1824~~ RTE 2834L with a grade of "C" or better
Topic Outline:

- Topics to be covered include, but are not limited to:
- Professional Communications
- Patient Care, Safety, Transfer, and Positioning of more acute patients
- Equipment manipulation & operation in the radiography department, mobile units, operating room, and angiography suite
- Proper use of general radiography and angiography suite accessory equipment and contrast media
- Universal Precautions practices
- Radiographic and angiography image production, manipulation, retrieval, and evaluation
- Radiation protection practices
- Bedside and Surgical Radiography: Special Conditions and Environments
- Advanced Radiography of the upper and lower extremities, advanced imaging of the chest and abdomen, Radiographic fluoroscopy procedures, radiography of the spine and bony thorax
- Radiography of the cranium and facial bones
- Radiography of a Pediatric (6 & under) chest radiography, trauma "cross-table lateral" ~~cervical~~ spine imaging, ~~ARRT elective, and special procedure radiography.~~ C- arm procedure with 2 views, and a Trauma upper and lower extremity procedure

Student Learning Outcomes
All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one's community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.
General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will properly manipulate radiographic equipment to produce diagnostic images.

B. Other Course Objectives/Standards
Upon satisfactory completion of this course, the student will be able to:

1. Demonstrate clinical competence
2. Demonstrate proper patient care techniques and effective communication skills when interacting with patients and family members in the radiology department.
3. Apply radiation safety principles and ALARA (As Low As Reasonably Achievable) concepts to protect patients, self, and others during radiographic procedures.
4. Demonstrate specialized skills in the modality of Interventional Radiography Imaging (IR) utilizing specialized fundamental knowledge of IR equipment and basic exams.
5. Demonstrate the ability to image acute care patients requiring imaging of procedures under indirect supervision utilizing critical thinking skills to alter the procedure to fit the needs of the patient.
6. Demonstrate continued proficiency in the manipulation of radiographic equipment
7. Demonstrate competence in routine radiographic imaging of headwork procedures, pediatric chest (6 yrs. or younger), cross-table lateral C, T or L spine, Trauma upper extremity (non-shoulder), trauma lower extremity (non-hip), and a surgical c -arm procedure requiring a minimum of 2 views utilizing established protocols to achieve proper anatomical visualization on resulting images.
8. Evaluate radiographic images for proper positioning, appropriate technical factors, and diagnostic quality, identifying errors and necessary corrections.
9. Document patient information and examination details accurately in the radiology information system.

10. Demonstrate professional behaviors including teamwork, punctuality, appropriate appearance, ethical conduct in the clinical setting.
11. Recognize and respond appropriately to common medical emergencies that may occur in the radiology department

Course Assessment

In this course, students will be assessed on completion of clinical competencies, weekly clinical performance evaluations, clinical attendance, and a Personal Development Assessment

Course: RTE 2782, RADIOGRAPHIC PATHOLOGY (RADIOGRAPHIC PATHOLOGY)
Section Number: 101
Course Reference Number: 23168
Delivery Method: Traditional
Campus: Lee
Credit Hours: 2 Credits - 2 Lecture Hours
Course Description: This course is the study of disease processes of the human body and how they are identified radiographically. The pathology of each major body system and the imaging methods and procedures used for diagnosis are explored.
Prerequisites/Co-requisites
Course Prerequisites: RTE 2563 with a grade of "C" or better
Topic Outline:

- Definition of pathology, signs, and symptoms, and radiographic interpretation
- Pathology of the skeletal and muscular systems
- Pathology of the cardiovascular and lymphatic systems
- Pathology of the respiratory system
- Pathology of the digestive system
- Pathology of the urinary system
- Pathology of the reproductive system
- Pathology of the integumentary system
- Pathology of the nervous system
- Pathology of the hepatobiliary system

Student Learning Outcomes
All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one’s community, nation, and the world.
A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.
General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will identify and define various pathological processes associated with each both system and identify them radiographically.

B. Other Course Objectives/Standards

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

1. Analyze radiographic images to differentiate between normal anatomical structures and pathological conditions across various body systems
2. Evaluate the radiographic appearance of traumatic, inflammatory, and neoplastic pathologies to determine appropriate imaging protocols and positioning modifications
3. Apply knowledge of disease processes to predict expected radiographic manifestations and select optimal exposure factors for pathological conditions
4. Critique image quality in the presence of pathological conditions to determine if diagnostic criteria have been met or if repeat imaging is necessary
5. Synthesize information from multiple imaging modalities to explain the progression and staging of disease process
6. Formulate appropriate communication strategies to interact professionally with patients experiencing various pathological conditions and their psychological impacts
7. Integrate knowledge of systemic disease manifestations to anticipate potential complications and contraindications during radiographic procedures

Course Assessment

Student progress is measured by: ~~four~~ quizzes, a midterm exam, a cumulative final exam, and a case-study.

Course: RTE 2473, QUALITY ASSURANCE (QUALITY ASSURANCE)
Section Number: 101
Course Reference Number: 23167
Delivery Method: Traditional
Campus: Lee
Credit Hours: 2 Credits - 2 Lecture Hours - 0 Lab Hours
Course Description: A course designed to introduce the radiography student to evaluation methodology of radiographic systems to assure consistency in the production of quality images at the lowest dose.
Prerequisites/Co-requisites
Course Prerequisites: RTE ~~1418~~ 1457 with a grade of "C" or better
~~**Course Co-requisites:** RTE 2834~~
Topic Outline:

- Introduction to Quality Assurance
- Establishing a Quality Assurance Program
- Rationale for a QA Program
- ~~Film Processor QC Methodology~~
- QC Tests of Radiation Equipment Systems
- QC Tests of Miscellaneous Equipment in Radiology
- Reject Analysis
- Trouble-Shooting Equipment Malfunctions
- Legal and Ethical Considerations for the Radiographer

Student Learning Outcomes
All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one's community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.
General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will calculate and interpret data from radiographic and fluoroscopic equipment quality control tests.

B. Other Course Objectives/Standards

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

1. Evaluate radiographic imaging equipment performance through systematic quality control testing to ensure compliance with regulatory standards and optimal image quality
2. Analyze quality control test results to identify equipment malfunctions, performance trends, and necessary corrective actions for maintaining diagnostic image standards
3. Critique radiographic images for technical quality factors including contrast, image receptor exposure, spatial resolution, and artifacts to determine acceptability for diagnostic interpretation
4. Assess the impact of processing variables on image quality metrics including noise, resolution, and contrast-to-noise ratio in digital imaging systems
5. Apply root cause analysis techniques to investigate image quality failures and implement corrective action plans that prevent recurrence
6. Analyze phantom image data to establish baseline performance metrics and tolerance limits for radiographic equipment acceptance testing
7. Evaluate the effectiveness of artifact reduction strategies in digital imaging systems to optimize diagnostic image quality and minimize repeat examinations

Course Assessment

Student progress will be assessed by 5 quizzes~~, two~~ unit tests, and a final exam.

Course: RTE 2385, RADIATION BIOLOGY/PROTECTION (RADIATION BIOLOGY/PROTECTION)
Section Number: 101
Course Reference Number: 23166
Delivery Method: Traditional
Campus: Lee
Credit Hours: 2 Credits - 2 Lecture Hours - 0 Lab Hours
Course Description: An examination of radiation safety issues related to the Radiologic Technology profession. Emphasis is given to concepts that increase one's awareness of the responsibility to protect the public and self from unnecessary radiation dose.
Prerequisites/Co-requisites
Course Prerequisites: RTE 1613 with a grade of "C" or better
~~**Course Co-requisites:** RTE 2834~~
Topic Outline:

- Interactions of Radiation with Matter
- Radiation Quantities and Units of Measure
- Dose Limits
- Radiobiology
- Protection of the Patient
- Protection of the Radiographer
- Radiation Monitoring Techniques and Equipment

Student Learning Outcomes
All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one’s community, nation, and the world.

A. General Education Competencies and Course Outcomes
1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.
General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will recognize the limits of exposure to ionizing radiation as recommended by the NCRP and calculate these doses in both the English and Metric systems.

B. Other Course Objectives/Standards

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

1. Evaluate the biological effects of ionizing radiation at cellular, tissue, and organ system levels to predict potential health consequences and determine appropriate protective measures
2. Analyze dose-response relationships for stochastic and deterministic effects to establish appropriate radiation safety thresholds and monitoring protocols
3. Calculate patient dose estimates using technical exposure factors, patient size, and beam geometry to ensure compliance with regulatory dose limits and reference levels
4. Integrate radiation biology principles with emerging imaging technologies to evaluate and minimize risks associated with new diagnostic and therapeutic procedures
5. Formulate age-specific and condition-specific radiation protection protocols that account for radiosensitivity variations across patient populations
6. Critique radiation exposure incidents and near-misses using root cause analysis to formulate preventative strategies and improve safety culture
7. Synthesize current research on radiation bioeffects and epidemiological studies to communicate evidence-based risk benefit information to patients and healthcare teams

Course Assessment

Student progress will be assessed using ~~5~~ quizzes, ~~two~~ unit tests, a written assignment, and a cumulative final exam.

Course: RTE 1814L, RADIOLOGY PRACTICUM II (RADIOLOGY PRACTICUM II)
Section Number: 100
Course Reference Number: 25225
Delivery Method: Traditional
Campus: Off-site Lee
Credit Hours: 3 Credits - 24 Other Hours
Course Description: This course is designed to provide students with clinical experience in a supervised radiologic setting. The student will put into practice the theories discussed in the accompanying RTE courses. Clinical rotations through selected areas of the Radiology Department allow students to attain experience in patient transportation; operations of the department; radiography room equipment manipulation; image receptor handling and processing; accessory equipment usage; and patient care and safety. The student will demonstrate competence in advanced chest, abdomen, and upper and lower extremities radiographic procedures and will observe and assist with basic radiographic procedures of the pelvis, hip, GI and GU systems under direct supervision by a registered technologist.
Students will attend clinic M, W am, & F.
Course Location
Clinical affiliate locations and times vary. Clinical affiliate site locations, preceptor name, site location, and clinical hours are posted in Canvas pages under affiliates tab.
Prerequisites/Co-requisites
Course Prerequisites: RTE 1804L with a grade of "C" or better.
Topic Outline:
Topics to be covered include, but are not limited to:

- Professional communications
- Patient care, safety, transfer, and positioning
- Equipment manipulation & operation in the radiography department, mobile units
- Proper use of radiography accessory equipment and contrast media
- Universal precautions practices
- Radiographic image production, manipulation, retrieval, and evaluation
- Radiation protection practices
- Bedside and surgical radiography: special conditions and environments
- Radiography of the upper and lower extremities, advanced imaging of the chest and abdomen
- Radiographic fluoroscopy procedures, radiography of the spine, pelvis and hip ~~and bony thorax~~

Student Learning Outcomes

All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one’s community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.
General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will properly manipulate radiographic equipment to produce diagnostic images.
- Students will communicate proper instructions to the patient to perform radiographic examinations.
- Students will use proper radiation safety techniques and procedures.
- Students will communicate clear instructions to the patient.
- Students will position various body parts for proper radiographic visualization.
- Students will evaluate radiographic images for proper positioning and technical factor selection.

B. Other Course Objectives/Standards

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

1. Demonstrate clinical competence
2. Demonstrate proper patient care techniques and effective communication skills when interacting with patients and family members in the radiology department.
3. Apply radiation safety principles and ALARA (As Low As Reasonably Achievable) concepts to protect patients, self, and others during radiographic procedures.
4. Demonstrate proper positioning of patients for routine radiographic examinations of the chest, abdomen, and extremities with minimal assistance, utilizing established protocols to achieve proper anatomical visualization on resulting images.
5. Demonstrate continued proficiency in the manipulation of radiographic equipment
6. Demonstrate competence in routine radiographic imaging of 2-view chest on a wheelchair or stretcher, acute or 2-view abdomen, and extremities by utilizing established protocols to achieve proper anatomical visualization on resulting images.
7. Evaluate radiographic images for proper positioning, appropriate technical factors, and diagnostic quality, identifying errors and necessary corrections.
8. Document patient information and examination details accurately in the radiology information system.
9. Demonstrate professional behaviors including teamwork, punctuality, appropriate appearance, and ethical conduct in the clinical setting.
10. Recognize and respond appropriately to common medical emergencies that may occur in the radiology department.

Course Assessment

In this course, students will be assessed on completion of clinical competencies, weekly clinical performance evaluations, clinical attendance, and a Personal Development Assessment.

Course: RTE 1613, RADIOGRAPHIC PHYSICS (RADIOGRAPHIC PHYSICS)
Section Number: 101
Course Reference Number: 23165
Delivery Method: Traditional
Campus: Lee
Credit Hours: 4 Credits - 4 Lecture Hours - 0 Lab Hours
Course Description: This course is a study of the fundamental units of measurement, the structure of matter, and the concepts of work, force, and energy. The course covers the following basics of electricity: electrostatics, electrodynamics, magnetism, and the electric generator. Concepts include electromagnetic induction, transformers, rectifiers, X-ray tubes, and the interactions that produce x-radiation. Radiation measurement and basic radiation protection concepts are also included.
Prerequisites/Co-requisites
Course Prerequisites: RTE 1418 with a grade of "C" or better
~~**Course Co-requisites:** RTE 1804~~
Topic Outline:

- Mathematical concepts used in physics
- Fundamental principles of physics
- Electricity and electromagnetic energy
- X-ray equipment
- Production and interactions of X-rays
- Radiation protection procedures

Student Learning Outcomes

All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one's community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.
General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will apply mathematical formulae to describe the physical properties of x-rays and other types of ionizing radiation.

B. Other Course Objectives/Standards

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

1. Apply principles of electromagnetic radiation to predict x-ray production, emission spectra, and photon interactions with matter in diagnostic imaging.
2. Analyze the components and operation of x-ray tubes, generators, and automatic exposure control systems to determine their impact on image production and equipment longevity.
3. Synthesize principles of radiation physics, electricity, and magnetism to explain fluoroscopic, mobile, and specialized imaging equipment operation.
4. Evaluate how tube current (mA), exposure time (s), kilovoltage peak (kVp), and source-image distance (SID) affect photon quantity, quality, and patient dose using mathematical relationships.
5. Compare photoelectric effect, Compton scattering, and coherent scattering interactions to predict image contrast, patient dose, and scatter radiation patterns at diagnostic energy ranges.
6. Synthesize principles of x-ray tube heat loading, focal spot size, and line focus principle to prevent tube damage while maximizing image resolution.
7. Calculate x-ray photon energy, wavelength, and frequency using Planck's equation and the electromagnetic spectrum to predict penetration and absorption in human tissues.

Course Assessment

Student progress in this course is assessed by ~~8~~ weekly quizzes, ~~three~~ unit tests, ~~three~~ homework assignments, and a cumulative final exam.

Note for course RTE 1513L below: There are 3 separate versions of this lab course this semester each held at a different time

Course: RTE 1513L, RADIOGRAPHIC POSITIONING LAB 2 (RADIOGRAPHIC POSITIONING LAB 2)
Section Number: 102
Course Reference Number: 25228
Delivery Method: Traditional
Campus: Lee
Credit Hours: 1 Credits - 3 Lab Hours
Course Description: This course is intended to provide students with hands-on practice of the radiographic procedures as described in RTE 1513. Radiographic procedures include the imaging of the urinary, biliary, and GI systems, spine, pelvis, and hip. Images will be analyzed for proper positioning, technical factors, radiation safety, and legal documentation. Pertinent radiographic anatomy and possible positioning errors will be identified and corrective actions will be determined.
Wednesdays 12pm-3pm
Prerequisites/Co-requisites
Course Prerequisites: RTE 1503L
~~**Course Co-requisites:** RTE 1513~~
Topic Outline:

- Positioning of the Urinary, Biliary, and GI systems, Spine, Pelvis, and Hip
- Radiographic Anatomy of the Urinary, Biliary, and GI systems, Spine, Pelvis, and Hip
- Patient Care, Safety and Transfer
- Equipment Manipulation and Operation
- Image Evaluation with Corrective Actions

Student Learning Outcomes

All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one's community, nation, and the world.

A. General Education Competencies and Course Outcomes
1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.
General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will use radiographic equipment to produce and evaluate diagnostic images and recommend corrective actions to ensure diagnostic accuracy and proper radiation safety procedures.

- Students will demonstrate proper patient care and transfer techniques, during radiographic procedures, to ensure the safety of the patient and student.
- Students will properly position the patient/mannequin to produce diagnostic images of the urinary, biliary, ~~theurinary, biliary,~~and GI systems, spine, pelvis, and hip.

B. Other Course Objectives/Standards

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

1. Properly operate, manipulate, and troubleshoot x-ray equipment in the radiology lab
2. Demonstrate proper patient positioning techniques for radiographic examinations of the pelvis, hip, spine, gastrointestinal and urinary systems
3. Apply radiation protection principles during radiographic positioning procedures to minimize patient and occupational exposure
4. Manipulate radiographic equipment to achieve optimal technical factors for various examinations
5. Adapt standard positioning techniques to accommodate patients with varying physical limitations, or pathological conditions
6. Evaluate radiographic images for proper positioning, anatomical visualization and technical quality
7. Integrate patient care skills with positioning techniques to ensure patient safety and comfort during radiographic procedures
8. Modify positioning techniques based on analysis of radiographic images to improve diagnostic quality
9. Synthesize knowledge of anatomy and positioning principles to solve complex positioning challenges in simulated clinical scenarios

Course Assessment

~~Weekly lab participation, weekly homework assignments, and final exam.~~ In this course, students will be assessed on weekly homework assignments, lab participation, a written final exam and a practical final exam.

Course: RTE 1513, RADIOGRAPHIC POSITIONING II (RADIOGRAPHIC POSITIONING II)
Section Number: 101
Course Reference Number: 23164
Delivery Method: Traditional
Campus: Lee
Credit Hours: 4 Credits - 4 Lecture Hours - 0 Lab Hours
Course Description: Students learn basic radiographic positioning for the pelvis, hip, entire spine; ~~bony thorax~~; upper gastrointestinal system; lower gastrointestinal system; genitourinary and biliary systems. Concepts include radiographic anatomy and ~~film~~ image analysis. Radiation protection is stressed and demonstrated for each procedure.

~~Students will also learn radiographic positioning of the pelvis and hip. Concepts include radiographic anatomy and~~
~~image analysis. Radiation protection is stressed and demonstrated for each procedure.~~
Prerequisites/Co-requisites
Course Prerequisites: RTE 1503 and RTE 1503L both with a grade of "C" or better
~~**Course Co-requisites:** RTE 1804~~
Topic Outline:

- Radiography of the pelvis & hip
- Radiography of the Lumbar Spine, SI Joints, Sacrum, and Coccyx
- Radiography of the Cervical and Thoracic Spine
- ~~Radiography of the Ribs, Sternum, and Sterno-Clavicular Joints~~
- Radiography of the Upper Gastrointestinal Tract
- Radiography of the Lower GI Tract
- Radiography of the Biliary System (Including Liver, Spleen, & Pancreas)
- Radiography of the Urinary System
- Radiography, radiation protection, radiographic anatomy, and image analysis of the pelvis and hip
- Radiography, radiation protection, radiographic anatomy, & image analysis of the Cervical and Thoracic Spine
- Radiography, radiation protection, radiographic anatomy, & image analysis of the Lumbar Spine, SI Joints, Sacrum, Coccyx, and SI joints
- Radiography, radiation protection, radiographic anatomy, & image analysis of the Upper Gastrointestinal Tract
- Radiography, radiation protection, radiographic anatomy, & image analysis of the Lower GI Tract
- Radiography, radiation protection, radiographic anatomy, & image analysis of the Biliary System (Including Liver, Spleen, & Pancreas)
- Radiography, radiation protection, radiographic anatomy, & image analysis of the Urinary System

Student Learning Outcomes

All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.

Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one's community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.
General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will successfully recognize and understand the human skeletal system an determine the proper radiographic positioning methods to obtain diagnostic images.

B. Other Course Objectives/Standards

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

1. Analyze proper radiographic positioning techniques for the pelvis, hips, GI studies, urographic studies, biliary studies cervical spine, thoracic spine, lumbar spine, sacrum, coccyx, and SI joints including specialized projections, by evaluating anatomical relationships, technical considerations, and current ARRT competency requirements.
2. Evaluate appropriate radiation protection practices including shielding, collimation, and technical factor selection to minimize patient exposure while maintaining diagnostic image quality in accordance with ALARA principles.
3. Identify, label, and describe the relationships between normal anatomical structures visualized on radiographic images of the pelvis, hips, GI studies, urographic studies, biliary studies, cervical spine, thoracic spine, lumbar spine, sacrum, coccyx, and SI joints including their spatial relationships and radiographic appearance.
4. Critique radiographic images for the pelvis, hips, GI studies, urographic studies, biliary studies, cervical spine, thoracic spine, lumbar spine, sacrum, coccyx, and SI joints demonstrating critical understanding of positioning challenges, radiation protection strategies, and optimal visualization of anatomical structures using established departmental and ARRT criteria to determine diagnostic acceptability, identifying specific positioning errors and formulating appropriate modifications based on patient condition and clinical indications.
5. Select optimal technical exposure factors (kVp, mAs, SID) for various radiographic examinations based on critical analysis of patient condition, anatomical considerations, and equipment capabilities.
6. Correlate complex radiographic procedures for pelvis, hips, GI studies, urographic studies, biliary studies, cervical spine, thoracic spine, lumbar spine, sacrum, coccyx, and SI joints correlating anatomy with radiographic appearances to enhance spatial understanding and positioning accuracy.
7. Adapt standard positioning protocols when encountering common pathological conditions, mobility limitations, or trauma situations that require modifications to positioning techniques or exposure factors while maintaining diagnostic quality and radiation safety principles.
8. Apply critical thinking skills to evaluate clinical decision-making strategies when faced with non-routine patient scenarios, demonstrating critical thinking in selecting appropriate alternative positioning methods.

Course Assessment

Student progress will be assessed by ~~5~~ unit tests and a cumulative final exam.

Course: RTE 1824L, RADIOLOGY PRACTICUM III (RADIOLOGY PRACTICUM III)
Section Number: 100
Course Reference Number: 34181
Delivery Method: Traditional
Campus: Lee
Credit Hours: 3 Credits - 24 Other Hours
Course Description: This course is designed to provide students with clinical experience in a supervised radiologic setting. The student will put into practice the theories discussed in ~~RTE 1523~~ accompanying RTE courses. Clinical rotations through selected areas of the Radiology Department and the operating room allow students to attain increased proficiency in radiography room equipment manipulation; image receptor handling and processing; accessory equipment usage; contrast media usage and preparation; patient care and safety; and surgical protocol and radiography of more acute patients. The student will demonstrate competence in fluoroscopic procedures, mobile imaging of the chest and abdomen, pelvis, hip, trauma hip imaging, a selected ARRT radiographic procedure, and mobile fluoroscopic equipment manipulation. The student will observe and assist with mobile fluoroscopic procedures in the operating room, radiographic procedures of the cranium, facial bones, and bony thorax under direct supervision by a registered technologist. Students will also utilize critical thinking skills in the performance of advanced radiographic procedures previously deemed competent on difficult patients. Additionally, students will demonstrate problem-solving techniques in the performance of radiographic procedures in which they were previously deemed competent on more acute patients.
Students will attend clinic M (4 hrs. in afternoon), W & F during the first half of summer. Starting late June ~~23rd~~ clinical days will be full 8.5 hour days on M, T, & W until the end of the summer.
Prerequisites/Co-requisites
Course Prerequisites: RTE 1814L with a grade of "C" or better.
Topic Outline:
Topics to be covered include, but are not limited to:

- Professional communications
- Patient care, safety, transfer, and positioning
- Equipment manipulation & operation in the radiography department, mobile units, and operating ~~ ~~room
- Proper use of radiography accessory equipment and contrast media
- Universal precautions practices
- Radiographic image production, manipulation, retrieval, and evaluation
- Radiation protection practices
- Bedside and surgical radiography: special conditions and environments
- Radiography of the upper and lower extremities, advanced imaging of the chest and abdomen,
- Radiographic fluoroscopy procedures, radiography of the spine and bony thorax
- Radiography of the cranium and facial bone
- Students will position various body parts for proper radiographic visualization.
- Students will evaluate radiographic images for proper positioning and technical factor selection.

Student Learning Outcomes

All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.

Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one's community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.
General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will properly manipulate radiographic equipment to produce diagnostic images.
- Students will communicate proper instructions to the patient to perform radiographic examinations.
- Students will use proper radiation safety techniques and procedures.
- Students will communicate clear instructions to the patient.
- Students will position various body parts for proper radiographic visualization.
- Students will evaluate radiographic images for proper positioning and technical factor selection.

B. Other Course Objectives/Standards

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

1. Demonstrate clinical competence
2. Demonstrate proper patient care techniques and effective communication skills when interacting with patients and family members in the radiology department.
3. Apply radiation safety principles and ALARA (As Low As Reasonably Achievable) concepts to protect patients, self, and others during radiographic procedures.
4. Demonstrate proper positioning of patients for routine radiographic examinations of the chest, abdomen, and extremities, mobile chest and abdomen, hip with frog, trauma x-table hip, pelvis, c-arm equipment manipulation, and fluoroscopic procedures of the GI, Urinary, and biliary system with minimal assistance utilizing established protocols to achieve proper anatomical visualization on resulting images.
5. Demonstrate the ability to image acute care patients requiring imaging of the chest, abdomen, and extremities utilizing critical thinking skills to alter the procedure to fit the needs of the patient.
6. Demonstrate continued proficiency in the manipulation of radiographic
7. Demonstrate competence in routine radiographic imaging of mobile chest and abdomen, hip with frog, trauma x-table hip, pelvis, c-arm equipment manipulation, an ARRT elective procedure, and fluoroscopic procedures of the GI system utilizing established protocols to achieve proper anatomical visualization on resulting images.
8. Evaluate radiographic images for proper positioning, appropriate technical factors, and diagnostic quality, identifying errors and necessary corrections.
9. Document patient information and examination details accurately in the radiology information system.
10. Demonstrate professional behaviors including teamwork, punctuality, appropriate appearance, ethical conduct in the clinical setting.

11. Recognize and respond appropriately to common medical emergencies that may occur in the radiology department.

Course Assessment

In this course, students will be assessed on completion of clinical competencies, weekly clinical performance evaluations, clinical attendance, and a Personal Development Assessment.

Note for course RTE 1523L below: There are 3 separate versions of this lab course this semester each held at a different time

Course: RTE 1523L, RADIOGRAPHIC POSITIONING LAB 3 (RADIOGRAPHIC POSITIONING LAB 3)
Section Number: 106
Course Reference Number: 33946
Delivery Method: Traditional
Campus: Lee
Credit Hours: 1 Credits - 3 Lab Hours
Course Description: This course is intended to provide students with hands-on practice of the radiographic procedures as described in RTE 1523. Radiographic procedures include the imaging of the bony thorax, skull, and facial bones. Images will be analyzed for proper positioning, technical factors, radiation safety, and legal documentation. Pertinent radiographic anatomy and possible positioning errors will be identified and corrective actions will be determined.
Prerequisites/Co-requisites
Course Prerequisites: RTE 1513L
~~**Course Co-requisites:** RTE 1523~~
Topic Outline:

- Positioning of the Bony Thorax, Skull, and Facial Bones
- Radiographic Anatomy of the Bony Thorax, Skull, and Facial Bones
- Patient Care, Safety and Transfer
- Equipment Manipulation and Operation
- Image Evaluation with Corrective Actions
- ~~Submitting written work generated by AI as your own without direct authorization from your professor.~~
- ~~Submitting work for credit that has already been submitted for credit in another class, even if you wrote it.~~
- ~~Unethical distribution or use of exam content.~~

Student Learning Outcomes

All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one’s community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.
General Education Competency: Evaluate

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will use radiographic equipment to produce and evaluate diagnostic images and recommend corrective actions to ensure diagnostic accuracy and proper radiation safety procedures.
- Students will demonstrate proper patient care and transfer techniques, during radiographic procedures, to ensure the safety of the patient and student.
- Students will properly position the patient/mannequin to produce diagnostic images of thebony thorax, skull, and facial bones.

B. Other Course Objectives/Standards

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

1. Properly operate, manipulate, and troubleshoot x-ray equipment in the radiology lab
2. Demonstrate proper patient positioning techniques for radiographic examinations of the bony thorax, and skull
3. Apply radiation protection principles during radiographic positioning procedures to minimize patient and occupational exposure
4. Manipulate radiographic equipment to achieve optimal technical factors for various examinations
5. Adapt standard positioning techniques to accommodate patients with varying physical limitations, or pathological conditions
6. Evaluate radiographic images for proper positioning, anatomical visualization and technical quality
7. Integrate patient care skills with positioning techniques to ensure patient safety and comfort during radiographic procedures
8. Modify positioning techniques based on analysis of radiographic images to improve diagnostic quality
9. Synthesize knowledge of anatomy and positioning principles to solve complex positioning challenges in simulated clinical scenarios

Course Assessment

~~Weekly lab participation, weekly homework assignments, final written and practical exams.~~ In this course, students will be assessed on weekly homework assignments, lab participation, a written final exam and a practical final exam.

Course: RTE 2061, RADIOLOGIC TECHNOLOGY SEMINAR (RADIOLOGIC TECHNOLOGY SEMINAR)
Section Number: 101
Course Reference Number: 33005
Delivery Method: Traditional
Campus: Lee
Credit Hours: 2 Credits - 2 Lecture Hours
Course Description: This is a final, comprehensive course that reviews and inter-relates concepts previously covered in the two-year curriculum. It provides the student with a meaningful approach to evaluate previous learning and to investigate areas of needed preparation for employment and credentialing. The course also includes employment interview skills and related concepts such as resume preparation.
Wednesdays from 9am-1130am will be review and questions about topics relating to exams.
Wednesdays from 12pm-2pm will be taking of the mock registry exams
Prerequisites/Co-requisites
Course Prerequisites: RTE 2782, RTE 2473, RTE 2385 all with a grade of "C" or better
Topic Outline:

- Review of Principles of Radiographic Exposure
- Review of Radiographic Positioning and Procedures
- Review of Anatomy
- Review of Physics and Equipment of Radiographic Imaging
- Review of Radiation Protection
- Test-taking Skills
- Employment Skills

Student Learning Outcomes

All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one’s community, nation, and the world.

A. General Education Competencies and Course Outcomes
1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.
General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will be able to integrate and apply concepts and skills learned in their prior courses as recognized by industry standards found in ARRT standardized examination.

B. Other Course Objectives/Standards

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

1. Construct comprehensive ARRT examination preparation strategies by analyzing personal learning styles, content gaps, and test-taking approaches
2. Assess personal strengths and areas for improvement through reflective practice to develop targeted professional development plans
3. Synthesize knowledge from across the radiology curriculum to analyze complex clinical case studies and formulate comprehensive patient care strategies
4. Create professional development portfolios that demonstrate competency achievement, clinical growth, and readiness for the ARRT certification exam
5. Pass one or more of the five mock registry simulation exams
6. Develop a written career plan

Course Assessment

Student progress will be assessed using ~~5~~ mock registry examinations, completion of a professional resume, and development of a career plan.

Course: RTE 1523, RADIOGRAPHIC POSITIONING III (RADIOGRAPHIC POSITIONING III)
Section Number: 101
Course Reference Number: 33004
Delivery Method: Traditional
Campus: Lee
Credit Hours: 3 Credits - 3 Lecture Hours
Course Description: Students learn basic radiographic positioning of the bony thorax, ~~for the~~ skull including facial bones, orbits, sinuses, temporomandibular joints, mandible, and nasal bones. Concepts include radiographic anatomy and ~~film~~ image analysis. Radiation protection is stressed and demonstrated for each procedure.

- Students will learn basic radiographic positioning, anatomy, & radiographic image analysis of the Bony Thorax

Students will demonstrate the knowledge of radiographic positioning, image analysis, and radiographic anatomy of the bony thorax.
Prerequisites/Co-requisites
Course Prerequisites: RTE 1513 and RTE ~~1804~~ 1814L both with a grade of "C" or better
~~**Course Co-requisites:** RTE 1814~~
Topic Outline:

- Radiology of bony thorax
- Radiology of the Skull and Orbits
- Radiology of the Facial Bones, Nasal Bones, and Sinuses
- Radiology of the Temporal Bones, Mandible, and TMJ's
- Radiology, radiation protection, radiographic anatomy, & image analysis of bony thorax
- Radiology, radiation protection, radiographic anatomy, & image analysis of the Skull and Orbits
- Radiology, radiation protection, radiographic anatomy, & image analysis of the Facial Bones, Nasal Bones, and Sinuses
- Radiology, radiation protection, radiographic anatomy, & image analysis of the Temporal Bones, Mandible, and TMJ's

Student Learning Outcomes
All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one's community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.
General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will successfully recognize and understand the human skeletal system and determine the proper positioning methods to obtain diagnostic images.

B. Other Course Objectives/Standards

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

1. Analyze radiographic positioning techniques for the ribs, sternum, SC joints, skull (cranial bones), facial bones, nasal bones, orbits, mandible, TMJ's, and paranasal sinuses including specialized projections, by evaluating anatomical relationships, technical considerations, and current ARRT competency requirements.
2. Evaluate appropriate radiation protection practices including shielding, collimation, and technical factor selection to minimize patient exposure while maintaining diagnostic image quality in accordance with ALARA principles.
3. Identify, label, and describe the relationships between normal anatomical structures visualized on radiographic images of the ribs, sternum, SC joints, skull (cranial bones), facial bones, nasal bones, orbits, mandible, TMJ's, and paranasal sinuses including their spatial relationships and radiographic appearance
4. Critique radiographic images for the ribs, sternum, SC joints, skull (cranial bones), facial bones, nasal bones, orbits, mandible, TMJ's, and paranasal sinuses demonstrating critical understanding of positioning challenges, radiation protection strategies, and optimal visualization of anatomical structures using established departmental and ARRT criteria to determine diagnostic acceptability, identifying specific positioning errors and formulating appropriate modifications based on patient condition and clinical indications.
5. Select optimal technical exposure factors (kVp, mAs, SID) for various radiographic examinations based on critical analysis of patient condition, anatomical considerations, and equipment capabilities.
6. Correlate complex radiographic procedures for the ribs, sternum, SC joints, skull (cranial bones), facial bones, nasal bones, orbits, mandible, TMJ's, and paranasal sinuses correlating anatomy with radiographic appearances to enhance spatial understanding and positioning accuracy
7. Adapt standard positioning protocols when encountering common pathological conditions, mobility limitations, or trauma situations that require modifications to positioning techniques or exposure factors while maintaining diagnostic quality and radiation safety principles.
8. Apply critical thinking skills to evaluate clinical decision-making strategies when faced with non-routine patient scenarios, demonstrating critical thinking in selecting appropriate alternative positioning methods

Course Assessment

Student progress will be assessed using ~~5~~ weekly tests and a cumulative final exam.

Course: RTE 2844, RADIOLOGY PRACTICUM V (RADIOLOGY PRACTICUM V)
Section Number: 100
Course Reference Number: 33604
SIS ID: CCRSRTE-2844-33604.202530
Delivery Method: Traditional
Campus: Off-site Lee

Remove this course. Need to add it as 2854L Practicum VI below instead

Course Description: This course is designed to provide students with clinical experience in a supervised radiologic setting. The student will put into practice the theories discussed in the accompanying RTE courses. Clinical rotations through selected areas of the Radiology Department, operating room, and optional rotations through MRI, Ultrasound, Nuclear Medicine, CT, and Special Procedures. These rotations allow students to attain increased proficiency and independence in radiography room equipment manipulation; image receptor handling and processing; accessory equipment usage; contrast media usage and preparation; patient care and safety; and surgical protocol and advanced radiography of acute patients. Students will also utilize critical thinking skills in the performance of more advanced radiographic procedures (LII competency) on difficult patients. These Level II competencies will include mobile imaging of an acute care patient, a more complex operating room radiologic procedure, and an exam performed in the radiology department drawn from previous five semester's material in which a student has proven competent. Additionally, students will demonstrate advanced problem-solving techniques in the performance of radiographic procedures in which they were previously deemed competent on more acute patients.
Prerequisites/Co-requisites
Course Prerequisites: RTE 2834 with a grade of "C" or better
Topic Outline:

- Topics to be covered include, but are not limited to:
- Patient Care, Safety, Transfer, and Positioning of more acute patients
- Indirectly supervised equipment manipulation & operation in the radiography department, mobile units, and operating room.
- Directly supervised in optional clinical rotational assignments of choice.
- Continued proper use of general radiography accessory equipment and contrast media
- Universal Precautions practices
- Radiographic image production, manipulation, retrieval, and evaluation
- Radiation protection practices
- Bedside and Surgical Radiography: Special Conditions and Environments
- Advanced Radiography of the axial and appendicular skeleton, advanced imaging of the chest and abdomen of acute patients, and Radiographic fluoroscopy procedures.
- Pediatric (6 & under) radiography.
- Trauma and operating room radiography of patients that require advanced critical thinking skills.

Course Assessment
In this course, students will be assessed on completion of clinical competencies, weekly clinical performance evaluations, clinical attendance, and a Personal Development Assessment.

Course: RTE 2854L, RADIOLOGY PRACTICUM VI (RADIOLOGY PRACTICUM VI)
Section Number: 100
Course Reference Number: 33604
Delivery Method: Traditional
Campus: Off-site Lee

Course Description: This course is designed to provide students with clinical experience in a supervised radiologic setting. The student will put into practice the theories discussed in the accompanying RTE courses. Clinical rotations through selected areas of the Radiology Department, operating room, and optional rotations through MRI, Ultrasound, Nuclear Medicine, CT, Mammography, and Special Procedures. These rotations allow students to attain increased proficiency and independence in radiography room equipment manipulation; image receptor handling and processing; accessory equipment usage; contrast media usage and preparation; patient care and safety; and surgical protocol and advanced radiography of acute patients. Students will also utilize critical thinking skills in the performance of more advanced radiographic procedures ~~(LII competency)~~ on difficult patients. These ~~Level II~~ competencies will include mobile imaging of an ~~acute care patient~~ upper or lower extremity~~, a more complex operating room radiologic procedure, and an exam performed in the radiology department drawn from previous five semester's material in which a student has proven competent~~ a selected ARRT radiographic procedure, and a special procedure category procedure. Additionally, students will demonstrate advanced problem-solving techniques in the performance of radiographic procedures in which they were previously deemed competent on more acute patients.

Prerequisites/Co-requisites

Course Prerequisites: RTE ~~2834~~ 2844L with a grade of "C" or better

Topic Outline:

- Topics to be covered include, but are not limited to:
- Patient Care, Safety, Transfer, and Positioning of more acute patients
- Indirectly supervised equipment manipulation & operation in the radiography department, mobile units, and operating room.
- Directly supervised in optional clinical rotational assignments of choice.
- Continued proper use of general radiography accessory equipment and contrast media
- Universal Precautions practices
- Radiographic image production, manipulation, retrieval, and evaluation
- Radiation protection practices
- Bedside and Surgical Radiography: Special Conditions and Environments
- Advanced Radiography of the axial and appendicular skeleton, advanced imaging of the chest and abdomen of acute patients, Pediatric (6 & under) radiography, ~~and~~ Radiographic fluoroscopy procedures, and Trauma and operating room radiography of patients that require advanced critical thinking skills.
- ~~Pediatric (6 & under) radiography~~. Radiography of a an ARRT elective, special procedure examination, and a mobile upper or lower extremity examination.

Student Learning Outcomes

All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.

Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one's community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.
General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will properly manipulate radiographic equipment to produce diagnostic images.

B. Other Course Objectives/Standards

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

1. Demonstrate clinical competence
2. Demonstrate proper patient care techniques and effective communication skills when interacting with patients and family members in the radiology department.
3. Apply radiation safety principles and ALARA (As Low As Reasonably Achievable) concepts to protect patients, self, and others during radiographic procedures.
4. Demonstrate the ability to image acute care patients requiring imaging of procedures requiring indirect supervision utilizing critical thinking skills to alter the procedure to fit the needs of the patient.
5. Demonstrate continued proficiency in the manipulation of radiographic equipment
6. Demonstrate competence in routine radiographic imaging of a mobile upper or lower extremity procedure, one ARRT elective procedure, and either a Myelogram, hysterosalpingogram, or arthrogram procedure utilizing established protocols to achieve proper anatomical visualization on resulting images.
7. Evaluate radiographic images for proper positioning, appropriate technical factors, and diagnostic quality, identifying errors and necessary corrections.
8. Document patient information and examination details accurately in the radiology information system.
9. Demonstrate professional behaviors including teamwork, punctuality, appropriate appearance, ethical conduct in the clinical setting.
10. Recognize and respond appropriately to common medical emergencies that may occur in the radiology department.

Course Assessment

In this course, students will be assessed on completion of clinical competencies, weekly clinical performance evaluations, clinical attendance, and a Personal Development Assessment.

Course: RTE 1457, PRIN RADIOGRAPHIC EXPOSURE II (PRIN RADIOGRAPHIC EXPOSURE II)
Section Number: 101
Course Reference Number: 33003
Delivery Method: Traditional
Campus: Lee
Credit Hours: 2 Credits - 2 Lecture Hours
Course Description: A course designed to build upon the concepts in RTE 1613, Radiologic Physics, and RTE 1418, Principles of Radiographic Exposure I. The course leads the learner through concepts related to radiographic imaging including: ~~film critique, exposure control systems including fixed and variable kilovoltage technique chart construction, automatic exposure control, and exposure conversion methods.~~ Exposure conversions, principles of computed radiography and digital radiography, image critique, exposure charts, and digital image processing
Prerequisites/Co-requisites
Course Prerequisites: RTE 1613 with a grade of "C" or better
~~**Course Co-requisites:** RTE 1814~~
Topic Outline:

- ~~Film Critique~~ Exposure Conversions
- ~~Film Processing~~ Exposure Charts
- ~~Sensitometry~~ Image Critique
- ~~Exposure Charts~~ Computed Radiography
- ~~Radiographic Pathology~~ Digital Radiography
- ~~Exposure Conversion Problems~~ Digital Imaging Processing
- ~~Digital Radiography~~

Student Learning Outcomes
All courses at Florida SouthWestern State College contribute to the General Education Program by meeting one or more of the following General Education Competencies:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one's community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.
General Education Competency: **Analyze**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Students will evaluate radiographic images and calculate changes in technical factors necessary to produce quality images.

B. Other Course Objectives/Standards

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

1. Evaluate digital image quality metrics including signal-to-noise ratio, detective quantum efficiency, and modulation transfer function to optimize imaging protocols for various clinical application
2. Analyze the relationship between image receptor exposure indicators and diagnostic image quality to determine appropriate target exposure index ranges for different anatomical examinations
3. Formulate evidence-based solutions for image quality problems by analyzing the interplay between digital processing algorithms and acquisition parameters
4. Create comprehensive technique charts that incorporate pathological conditions, body habitus variations, and equipment-specific exposure indicators
5. Integrate principles of exposure latitude and dynamic range to optimize window width and level settings for various anatomical structures and pathologies
6. Analyze dose area product and exposure index deviation data to identify trends and implement corrective actions for dose optimization
7. Evaluate the impact of different digital detector technologies on exposure requirements and image quality characteristics across various clinical applications

Course Assessment

Student progress will be assessed using 4 ~~4~~ quizzes, ~~two~~ unit tests, ~~three~~ homework assignments, and a cumulative final exam.

PLO 1	SLO 1.a	Mike M.	**PLO 3**	SLO 1.a	Mike M.	**PLO 5**	SLO 1.a	Rendy P.	**PLO 7**	SLO 1.a	Mike M.
	SLO 1.b	Coleen K.		SLO 1.b	Jim M.		SLO 1.b	Rendy P.		SLO 1.b	Coleen K.
	SLO 2.a	Coleen K.		SLO 2.a	Coleen K.		SLO 2.a	Rendy P.		SLO 2.a	Coleen K.
	SLO 2.b	Coleen K.		SLO 2.b	Coleen K.		SLO 2.b	Rendy P.		SLO 2.b	Coleen K.
PLO 2	SLO 1.a	Coleen K.	**PLO 4**	SLO 1.a	Mike M.	**PLO 6**	SLO 1.a	Coleen K.			
	SLO 1.b	Coleen K.		SLO 1.b	Mike M.		SLO 1.b	Coleen K.			
	SLO 2.a	Coleen K.		SLO 2.a	Rendy P.		SLO 2.a	Mike M.			
	SLO 2.b	Rendy P.		SLO 2.b	Rendy P.		SLO 2.b	Coleen K.			

	Fall	Spring	Summer A	Summer C	6 Months After Graduation
1st Year	PLO 5 - SLO 1.a Rendy P. RTE-1000	PLO 1 - SLO 1.a Mike M. RTE-1513L	PLO 7 - SLO 1.a Mike M. RTE-1523L	PLO 1 - SLO 1.b Coleen K. RTE-1824L	
	PLO 5 - SLO 1.b Rendy P. RTE-1000	PLO 3 - SLO 1.b Jim M. RTE-1613			
	PLO 5 - SLO 2.a Rendy P. RTE-1000	PLO 3 - SLO 2.a Coleen K. RTE-1814L			
	PLO 5 - SLO 2.b Rendy P. RTE-1000	PLO 6 - SLO 1.a Coleen K. RTE-1814L			
	PLO 7 - SLO 1.b Coleen K. RTE-1804L	PLO 6 - SLO 1.b Coleen K. RTE-1814L			
2nd Year	PLO 1 - SLO 2.a Coleen K. RTE-2834L	PLO 1 - SLO 2.b Coleen K. RTE-2844L	PLO 4 - SLO 1.a Mike M. RTE-2061		PLO 2 - SLO 2.b Rendy P. Employer Survey
	PLO 6 - SLO 2.b Coleen K. RTE-2834L	PLO 2 - SLO 1.a Coleen K. RTE-2844L			PLO 4 - SLO 2.a Rendy P. Graduate Survey
	PLO 7 - SLO 2.a Coleen K. RTE-2834L	PLO 2 - SLO 1.b Coleen K. RTE-2844L			PLO 4 - SLO 2.b Rendy P. Graduate Survey
	PLO 6 - SLO 2.b Coleen K. RTE-2834L	PLO 2 - SLO 2.a Coleen K. RTE-2844L			
		PLO 3 - SLO 1.a Mike M. RTE-2782			
		PLO 3 - SLO 2.b Coleen K. RTE-2844L			
		PLO 4 - SLO 1.b Mike M. RTE-2385			
		PLO 6 - SLO 2.a Mike M. RTE-2473			
		PLO 7 - SLO 2.b Coleen K. RTE-2844L			