**ESSEX COUNTY COLLEGE**

**Nursing and Allied Health Division**

**RTC 110 – Radiologic Advanced Positioning Principles IV**

**Course Outline**

**Course Number & Name:**  RTC 110 Radiologic Advanced Positioning Principles IV

**Credit Hours:**  1.0 **Contact Hours:**  1.0 **Lecture:** 1.0 **Lab:**  1.0 **Other:**  N/A

**Prerequisites**:  Grades of “C” or better in RTC 101 and RTC 106

**Co-requisites**: RTC 109 **Concurrent Courses:** None

**Course Outline Revision Date:**  Fall 2011

**Course Description**: Students gain, through problem solving and completion of experiments, a thorough working knowledge of special and troublesome procedures. This course is for students who have practiced the basic views and are aware of positioning limitations. Students learn alternate positioning skills to image various anatomical structures in the emergency room environment. Lecture is supplemented with demonstrations and opportunities for students to practice the skills in the radiographic room. Critiques of radiographic films are conducted in the classroom/laboratory.

**Course Goals**: Upon completion of this course the student radiographer will be able to:

1. identify and respond to emergency situations with patients in the emergency department and the radiology department;

2. properly prepare for and perform mobile radiography in both regular and patient isolation conditions;

3. apply the necessary knowledge and skills to operate and perform operating procedures under sterile conditions with optimal radiation protection; and

4. identify the body systems, terminology, and basic cross sectional anatomy in the CT department.

**Measurable Course Performance Objectives (MPO)**: Upon completion of this course the student radiographer should specifically be able to:

1. Identify and respond to emergency situations with patients in the emergency department and the radiology department:

1.1 *describe and identify symptoms of shock, cardiac arrest, diabetic crisis, chokings/respiratory, CVA, and trauma;* and

1.2 *describe and identify symptoms of shock, cardiac arrest, diabetic crisis, chokings/respiratory, CVA, and trauma*

**Measurable Course Performance Objectives (MPOs)** (continued):

2. Properly prepare for and perform mobile radiography in both regular and patient isolation conditions:

2.1 *identify 2 types of mobile equipment;*

2.2 *describe proper procedure for isolation patients in both immune-suppressed and infectious disease situations;* and

2.3 *describe proper procedure for mobile radiography of the chest, abdomen, and trauma orthopedic while utilizing radiation safety and scatter control*

3. Apply the necessary knowledge and skills to operate and perform operating procedures under sterile conditions with optimal radiation protection:

3.1 *describe and demonstrate proper method of gowning, gloving, maintaining a sterile field, and interacting with other members of the OR team both sterile scrubbed and not;*

 3.2 *describe movement of the mobile C-arm and radiation safety measures;* and

 3.3 *identify members of the OR team*

4. Identify the body systems, terminology, and basic cross sectional anatomy in the CT department:

4.1 *recognize basic cross sectional anatomy and the presence of life-threatening pathology;*

 4.2 *identify the action and body system associated with selected drugs;* and

 4.3 *recognize proper administration and route for selected drugs*

**Methods of Instruction**: Instruction will consist of lectures, class discussions/participation, PowerPoint slide shows, class activities, radiograph review, and laboratory activities.

**Outcomes Assessment:** Test and exam questions are blueprinted to the course objectives which are based on the minimum standards required by the American Radiology of Radiologic Technologists (ARRT) and the American Society of Radiologic Technologists (ASRT) suggested course curriculum. Note: Tests and exams are primarily structured in multiple-choice formats in conjunction with the ARRT exam. Also, checklist rubrics may be used to evaluate students for the level of mastery of course objectives.

**Course Requirements:** All students are required to:

1. Read the textbook and do the suggested homework problems in a timely manner.

2. Attend and be an active participant in all classes.

3. Take tests/exams in class and adhere to the test/exam schedule.

4. Turn off cell phones while in class.

5. Remain in the classroom during the entire class period.

6. Earn a “C” or better to pass this class. Students who do not earn a “C” or better will be required to withdraw from the Radiography Program as per program policy.

**Methods of Evaluation:** Final course grades will be computed as follows:

 **% of**

**Grading Components final course grade**

* 4 or more Tests (dates specified by the instructor)  50%

Tests will be administered regularly throughout the semester to test student mastery of course objectives.

* **Midterm Exam** (date specified by the instructor)  **20%**

The midterm exam format may consist of multiple choice, short answer, and true/false questions and will include material from the readings, homework, lectures, and labs covered throughout the semester. The midterm exam will test the students’ mastery of course objectives and synthesis of course material covered from the beginning through the first half of the semester.

* **Final Exam** **30%**

The final exam format may consist of multiple choice, short answer, and true/false questions and will include material from the readings, homework, lectures, and labs covered throughout the semester. The final exam will test the students’ mastery of course objectives and synthesis of course material covered throughout the entire semester.

**Academic Integrity:** Dishonesty disrupts the search for truth that is inherent in the learning process and so devalues the purpose and the mission of the College. Academic dishonesty includes, but is not limited to, the following:

* plagiarism – the failure to acknowledge another writer’s words or ideas or to give proper credit to sources of information;
* cheating – knowingly obtaining or giving unauthorized information on any test/exam or any other academic assignment;
* interference – any interruption of the academic process that prevents others from the proper engagement in learning or teaching; and
* fraud – any act or instance of willful deceit or trickery.

Violations of academic integrity will be dealt with by imposing appropriate sanctions. Sanctions for acts of academic dishonesty could include the resubmission of an assignment, failure of the test/exam, failure in the course, probation, suspension from the College, and even expulsion from the College.

**Student Code of Conduct:** All students are expected to conduct themselves as responsible and considerate adults who respect the rights of others. Disruptive behavior will not be tolerated. All students are also expected to attend and be on time for all class meetings. No cell phones or similar electronic devices are permitted in class. Please refer to the Essex County College student handbook, *Lifeline*, for more specific information about the College’s Code of Conduct and attendance requirements.

**Course Content Outline:** based on the texts **Introduction to Radiologic Science and Patient Care**, 6th edition, by Adler and Carlton; published by Sauders; ISBN-13 #: 978-1-4160-3194-9; and **Radiographic Positioning and Procedures**, 13th edition, by E Frank, B Long, and B Smith; ISBN-13 #: 978-0323073349.

**Week Topics covered**

1 Patient assessment/medical emergencies in radiography

 Adler & Carlton, pp 275 – 288

2 **Test 1**

 Mobile radiography

 Frank, Long & Smith volume 3, pp 234 – 262; workbook pp 261 – 266

3 **Test 2**

Trauma terminology and fractures, trauma-induced injuries

 Frank, Long & Smith volume 2, pp 22 – 56

4 **Midterm Exam**

 Surgical radiography/fluoroscopy in the OR

5 **Test 3**

Fundamentals of CT, diagnostic applications, CT of the head, CT of the chest

6 **Test 4**

CT of the abdomen, use of CM in CT

7 **Final Exam**

***FLOW‐SHEET FOR LABORATORY PROFICIENCY EXAMINATION***

|  |  |  |  |
| --- | --- | --- | --- |
| **PROCEDURE**  | **BODY PART** | **POSITION(S) REQUIRED** | **# OF****VIEWS** |
| Portable/mobile radiograph | Chest | AP | 1 |
| KUB /ABD | AP | 1 |
| Lower Ext. | AP/LAT | 2 |
| Upper Ext. | AP/LAT | 2 |
| Skull | AP/LAT | 2 |
| Hip | AP/LAT | 2 |
| Pelvis | AP | 1 |
| The Emergency Roomtrauma | Chest | AP | 1 |
| KUB /ABD | AP | 1 |
| Lower Ext. | AP/LAT | 2 |
| Upper Ext. | AP/LAT | 2 |
| Skull | AP/LAT | 2 |
| Hip | AP/LAT | 2 |
| Pelvis | AP | 1 |
| Surgical radiography (Operation Room – OR)/The C- ARM | Fluoroscopy | Operation /orientation of the C- ARM to the body part | N/A |
| CAT scan of the thoracic/cross sectional anatomy | Chest/thorax | Axial/coronal/saggital(MPR ) Multiple Planner Reconstruction | 3 |
| CAT scan of the abdomen and pelvis/cross sectional anatomy | Abd./pelvis | Axial/coronal/saggital(MPR ) Multiple Planner Reconstruction | 3 |
| CAT scan of the cervical, thoracic, and lumbar spine/cross sectional anatomy | The spinal column | Axial/coronal/saggital(MPR ) Multiple Planner Reconstruction | 3 |