**ESSEX COUNTY COLLEGE**

**Nursing and Allied Health Division**

**RTC 204 – Pediatric/Geriatric Radiography**

**Course Outline**

**Course Number & Name:**  RTC 204 Pediatric/Geriatric Radiography

**Credit Hours:**  2.0 **Contact Hours:**  2.0 **Lecture:** 2.0 **Lab:**  N/A **Other:**  N/A

**Prerequisites**:  Grade of “C” or better in RTC 202

**Co-requisites:** RTC 203 and RTC 205 **Concurrent Courses:** None

**Course Outline Revision Date:**  Fall 2011

**Course Description**: Pediatrics and geriatrics are specialized fields. It is important that the technologist follows definite procedural methods with young and elderly patients. Advantages include saving time, film, and energy, as well as minimizing the amount of radiation on the patient.  This course provides detailed instruction in radiographic positioning, procedures, and equipment for pediatric and geriatric patients. Lecture is supplemented with demonstrations and opportunities for students to practice the skills in the radiographic room. Critiques of radiographic films are conducted.

**Course Goals:** Upon successful completion of this course, students should be able to do the following:

1. recognize pediatric and geriatric patients as special populations;

2. discuss disease processes unique to pediatric and geriatric populations; and

3. demonstrate and/or describe the required compensations and alterations required to image or manage these populations.

**Measurable Course Performance Objectives (MPOs)**: Upon successful completion of this course, students should specifically be able to do the following:

1. Recognize pediatric and geriatric patients as special populations:

1.1 *explain how pediatric and geriatric considerations may not be based on patient age alone;*

1.2 *identify risk factors for osteoporosis;*

1.3 *discuss the reasons for the increased geriatric population and the economic realities;*

1.4 *identify the three most important factors when dealing with older patients;*

1.5 *demonstrate proper methods of addressing, handling, and educating geriatric patients and their families;* and

1.6 *identify JCAHO required age-specific competencies*

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

2. Discuss disease processes unique to pediatric and geriatric populations:

2.1 *define and briefly explain gerontology, ageism, and associated chronic conditions including those listed below;*

* Alzheimer’s Disease
* Atherosclerosis
* Benign Prostatic Hyperplasia
* CHF
* Chronic Obstructive Pulmonary Disease
* Compression Fracture
* Contractures
* Contrast media
* Dementia
* Emphysema
* Kyphosis
* Osteoarthritis
* Renal failure
* Urinary Incontinence

2.2 *describe the physical effects of aging;*

2.3 *identify fractures and health conditions associated with the aging population and landmark considerations;*

2.4 *explain the reasons and methods of performing long bone measurement;*

2.5 *define and discuss imaging considerations for the pediatric conditions listed below;* and

* Congenital club foot
* Congenital hip displasia
* Cystic fibrosis
* Epiglottits
* Ewing’s sarcoma
* Hirschsprung’s Disease
* Intussusception
* Legg-Calve`-Perthes Disease
* Myelomeningocele
* Omphalocele and gastroschisis
* Osgood-Schlatter Disease
* Osteochondroma
* Osteogenesis RDS
* Osteosarcoma
* Premature infant
* Pyloric stenosis
* Scheuermann’s Disease
* Slipped epiphysis
* Wilm’s Tumor

2.6 *identify levels of Salter-Harris fractures*

3. Demonstrate and/or describe the required compensations and alterations required to image or manage these populations:

3.1 *identify and demonstrate proper immobilization techniques for pediatric patients;*

3.2 *discuss the responsibility of the health care worker and suspected child abuse;* and

3.3 *describe proper pediatric positioning, CR placement, image evaluation, and shielding*

**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 quizzes and exams in class and adhere to the quiz/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**

* 6 or more Quizzes (dates specified by the instructor)  25%

Quizzes will be administered regularly throughout the semester to test student mastery of course objectives. Note: The lowest quiz grade will be dropped and the remaining 5 highest quiz grades will be averaged to provide a Quiz Average, which counts as 25% of the final course grade.

* **Research Paper/Presentation 25%/10%**

Research papers/presentations are designed to enhance student understanding of disease processes unique to the pediatric and geriatric populations.

* **Midterm Exam** (date specified by the instructor)  **15%**

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 25%**

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 Sciences and Patient Care**, 4th edition, by Adler and Carlton; ISBN #: 13:978-1-4160-3194-9; and **Textbook of Radiographic Positioning and Related Anatomy**, 7th edition, by Kenneth L Bontrager; ISBN #: 978-0-323-05410-2

**Week Topics covered**

1 Review class syllabus, project due dates

Discuss geriatric and pediatric considerations

Adler and Carlton, pp 152 – 153 & pp 186 – 190

Handout from instructor

2 The demographics of aging

The physical, cognitive, and psychosocial effects of aging

Handout from instructor

3 **Quiz 1**

Finish geriatrics

Begin pediatric imaging, Bontrager Ch 19, pp 645 – 652

4 Pediatric imaging, approaching child by age, approaching special needs children, and the emergency patient

5 – 6 **Quiz 2**

The abused pediatric patient

Handout from instructor

Begin pediatric pathology, Bontrager pp 653 – 656

7 **Midterm Exam**

Pediatric pathology (continued)

8 Pediatric pathology (continued)

**Project presentations** begin

9 – 10 **Quiz 3**

Pediatric radiography

Bontrager pp 657 – 678

Project presentations

11 **Quiz 4**

Immobilization/limb radiography

Bontrager pp 657 – 678 (continued)

Project presentations

12 **Quiz 5**

Evaluating pediatric images/abdominal/GI radiography

Bontrager pp 657 – 678 (continued)

**Project presentations**

**Week Topics covered**

13 **Quiz 6**

Bone age/bone length/FB/scoliosis

Bontrager pp 338 – 341, p 769

**Project presentations**

14 **Written Research Paper due**

Advanced imaging

Review for final exam

15 **Final Exam**