**ESSEX COUNTY COLLEGE**

**Nursing and Allied Health Division**

**RTC 102 – Recording Media**

**Course Outline**

**Course Number & Name:**  RTC 102 Recording Media

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

**Prerequisites**:  Formal acceptance into the Radiography Program

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

**Course Outline Revision Date:**  Fall 2011

**Course Description**: This course is designed to develop the necessary knowledge and skills to perform darkroom procedures with accuracy and efficiency.  Students are provided a full understanding of the chemical constituents of processing solutions and their function. Critiques of radiographic films are conducted.

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

1. demonstrate the properties of radiographic film and image intensifying screens and analyze the influence of each property on the resultant image;

2. relate properties of radiographic film and image intensifying screens to specific procedure applications; and

3. describe the operation of an automatic film processor and its components.

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

1. Demonstrate the properties of radiographic film and image intensifying screens and analyze the influence of each property on the resultant image:

1.1 *given cross-sectional diagrams of radiographic film and image intensifying screens, label the components and describe the structure and function of each component*;

1.2 *define latent image formation*;

1.3 *explain how sensitization specks contribute to latent image formation*;

1.4 *define characteristic curve and explain its purpose*;

1.5 *identify density values, graph characteristic curves for radiographic film*; and

1.6 *determine characteristic curves for radiographic film and interpret them*

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

2. Relate properties of radiographic film and image intensifying screens to specific procedure applications:

2.1 *explain film/screen speed relationships, benefits, and trade-offs*; and

2.2 *explain film emulsion choice/number of screens and reflective layer to specific body part or desired outcome*

3. Describe the operation of an automatic film processor and its components:

3.1 *describe the design of the dark room*;

3.2 *discuss how radiographic film is processed in and identify the parts of an automatic processor*; and

3.3 *explain the function of the processing chemicals and identify related artifacts*

**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 **Radiographic Science for Technologists**, 9th edition, by S C Bushong; ISBN #: 978-0-323-04837; and the **Radiologic Science for Technologists Workbook and Laboratory Manual**, 9th edition; ISBN #: 978-0-323048385

**Week Topics covered**

1 Film construction

Chapter 11

2 – 3 The latent image, silver halide crystals, emulsion thickness

Screen film versus non-screen film

Chapter 11 (continued)

4 – 5 **Test 1**

Film sensitivity, types of film, proper film handling and storage

6 – 7 **Test 2**

Automatic processing

Chapter 12

8 **Midterm Exam**

Automatic processing (continued)

9 – 10 Image intensifying screen construction, the phosphor layer

Screen speed, the reflective layer, image resolution

Chapter 13

**Test 3**

11 – 12 K-shell, calcium tungstate versus rare earth

Proper handling and care of screens

**Test 4**

13 – 14 Characteristic curve, optical density, contrast, density, D-max

Solarization

Chapter 16

Review for Final Exam

15 **Final Exam**