

# Common Course Outline

RADT 201

Radiography III

6 credits

## The Community College of Baltimore County

### Description

#### Radiography III

Continues the Radiography sequence with the fifth course; consists of both classroom and clinical sessions. Covers the use of contrast media to perform radiographic examinations of the digestive, urinary and reproductive systems; also covers radiation protection. Provides continued participation in actual radiographic procedures.

Four (4) lecture hours, twenty-four (24) laboratory hours a week, fifteen weeks. Offered Summer).

Prerequisite: RADT 112

### Overall Course Objectives

Upon completion of the Positioning modules, the student will be able to:

1. Identify anatomy of the digestive, urinary and reproductive systems on diagrams and radiographs.
2. Describe the patient preparation and discharge instructions for examinations of the digestive, urinary and reproductive systems.
3. Identify equipment and supplies for examinations of the digestive system, urinary and reproductive systems. .
4. Describe the use of positive and negative contrast media, barium compounds and oral iodine based agents in examinations of the digestive system.
5. Describe the use of ionic and non-ionic contrast media, and the special precautions that must be taken prior to its intravenous injection.
6. Describe the equipment/supplies including contrast media, patient preparation/instructions, patient position, part placement, film selection/placement, beam alignment/angulation, and general procedure for the routine and special examinations of the digestive, urinary and reproductive systems
7. Given images of contrast procedures, identify the specific procedure being done, the structure visualized, and the function demonstrated.

Upon completion of the Radiation Protection module, the student will be able to:

1. State the goal of radiation protection and identify the responsibility of the radiographer for radiation protection.
2. List major natural and artificial sources of background radiation.
3. Differentiate between particulate and electromagnetic radiations.
4. Discuss interactions of radiation with matter and their relevance to radiation protection.
5. Discriminate among various units of radiation, both traditional and SI units.
6. Describe the concept of effect dose equivalent limits and differentiate between whole body and body part dose equivalent limits for radiation exposed workers and the general public.
7. Discuss the methods used to reduce both patient and radiographer exposure.
7. Discuss personnel monitoring devices in terms of types, purpose, characteristics, advantages and disadvantages.

**Overall Course Objectives, continued**

9. State the requirements of room design to protect both occupationally exposed workers and the general public.
10. List and discuss basic equipment designs that are required to protect patients and radiographers from excessive exposure to radiation.
11. Discuss the methods that reduce both operator and patient exposure to ionizing radiation.

Upon completion of Clinical Education, the student will be able to:

1. Complete demonstration/practice sessions for category V (spine and thorax) and category IV (contrast studies, digestive and urinary).
2. Complete laboratory evaluations (simulations) for category III (lower extremity), and category V (spine and bony thorax).
3. Present films for image evaluation in category II (upper extremity), category III (lower extremity), and category V (spine and bony thorax).
4. Complete competency tests for category I (chest and abdomen), and category II (upper extremity). A minimum of 10 successful competency tests must be completed during RADT 201.
5. Complete area specific clinical performance objectives for scheduled RADT 201 clinical areas.
6. Apply principles of film critique in evaluating radiographic images performed during laboratory and clinical assignments.
7. Continue researching the selected clinical topic for the scientific essay or exhibit, which is to be completed in RADT 202 (fall semester).
8. Demonstrate appropriate professional behavior while on clinical duty.

**Major Topics**

Positioning module on Digestive Procedures.

- I. Introduction To Digestive Procedures
  - A. Equipment
  - B. Contrast Media
  - C. Body Types
  - D. Anatomy of Digestive System
- II. Procedures to Examine the Upper Gastrointestinal System
  - A. Swallowing Function
  - B. Esophagram (Barium Swallow)
  - C. Upper G. I. Series
- III. Procedures to Examine the Small Bowel
  - A. Small Bowel Series
  - B. Enteroclysis
  - C. Barium Burger Study
- IV. Procedures to Examine the Large Intestine
  - A. Barium Enema, single contrast
  - B. Barium Enema, double contrast
  - C. Barium Enema, colostomy approach
  - D. Defecography

## Major Topics, continued

- V. Procedures to Examine the Accessory Digestive Organs
  - A. Sialography
  - B. Oral Cholecystogram
  - C. T-tube cholangiogram

### Positioning module on Urinary and Reproductive Procedures.

- I. Introduction to Urinary Procedures
  - A. Anatomy
  - B. Anomalies
  - C. Pathology
- II. Contrast Media
  - A. Ionic
  - B. Non-Ionic
- III. Intravenous Urography
  - A. Routine
  - B. Pediatric
  - C. Drip
  - D. Hypertensive
  - E. Additional Views
- IV. Additional Examinations
  - A. Retrograde Urography
  - B. Cystography
  - C. Voiding Cytourethrography
  - D. Urethrography
  - E. Antegrade Urography

### Positioning module on Special Procedures.

- I. Contrast Procedures
  - A. arthrography
  - B. endoscopic retrograde cholangiopancreatography
  - C. hysterothorography
  - D. myelography
  - E. fistulograms/sinus tract injections
- II. Mobile Procedures
  - A. Equipment
  - B. Radiation Protection
  - C. Imaging exams in the Operating Room
- III. Mammography
  - A. Anatomy
  - B. Pathology
  - C. Equipment
  - D. Positioning
  - E. Quality Control

## Course Requirements

Grades for RADT 201 will be determined by the following:

- |       |   |                                  |
|-------|---|----------------------------------|
| I.    | Attendance, Dress Code, & Ethics  | 2.5 points                       |
|       | minus 0.5 points for each absence or late   | minus 1.0 points for a "NO-CALL" |
|       | Absence from three (3) or more classes or three (3) or more absences from clinical will lower the course grade one letter unless accompanied by a physician's written reason, |                                  |
|       | minus 0.5 points for each infraction of uniform policy, minus 1.0 point for each infraction after 1st notice  |                                  |
|       | Students must be appropriately attired to be permitted in the clinical areas.   |                                  |
| II.   | Clinical Performance Objectives, Exam Record Logs   | 2.5 points                       |
| III.  | Clinical Evaluations  | 7.5 points                       |
|       | Evaluations of students' clinical performance are completed weekly by supervising clinical staff.   |                                  |
| IV.   | Laboratory Evaluations (Simulations), Image Evaluations, Competency Tests   | 10 points                        |
|       | A minimum of 10 successful competency tests is required for RADT 201.   |                                  |
| V.    | Film Critique and Experiment  | 10 points                        |
|       | Students are responsible for preparing and presenting a film critique report and a clinical experiment report.  |                                  |
| VI.   | Essay/Exhibit Update  | 2.5 points                       |
|       | Students must submit written progress reports documenting their research for the scientific exhibit/essay.  |                                  |
| *VII. | Quizzes and & Units   | 10 points                        |
| *VII. | Tests (completed after each module)   | 20 points                        |
| *IX.  | Final Written Comprehensive Exam  | <u>35 points</u>                 |
|       |   | 100 points                       |

\*Points may be deducted for quizzes, tests and/or exams that are missed and made up at a later date.

The ARRT has established a minimum passing score of 75%. The radiography program has established standards that are consistent with grading systems of other radiography programs. Letter grades for RADT 201 will be determined according to the following guidelines:

92	-	100	A
83	-	91	B
75	-	82	C
65	-	74	D
Below 65			F

## **Other Course Information**

Formal admission into the Radiography Program is required prior to registration.

RADT 201 is the fifth course in the sequence of nine courses that comprise the professional portion of the curriculum and must be taken after successful completion of RADT 112.

Date revised: 07/12/00