Common Course Outline
RADT 250
Principles of Mammography
4 Credits

Community College of Baltimore County

Description

RADT 250 – Principles of Mammography provides Registered Radiographers with the fundamental concepts of mammography and prepares them to enter the advanced field of mammography. Students explore topics in patient care, instrumentation, anatomy and physiology, mammographic technique, image evaluation, radiation safety, and quality control.

4 Credits

Prerequisite: Permission from the Program Director
Corequisite: RADT 251

Overall Course Objectives

Upon completion of this course students will be able to:

1. provide patient education regarding breast self-examination;
2. identify the significance of effective patient education and communication skills;
3. implement proper techniques and procedures for conducting a breast assessment;
4. identify and label external and internal anatomy of the breast;
5. identify the mammographic appearance of pathologies;
6. describe the etiology, mammographic appearance, diagnosis and treatment of malignant and benign breast pathologies;
7. describe different types of interventional/surgical procedures;
8. select proper exposure factors according to patient's breast composition and/or placement of Automatic Exposure Control (AEC);
9. describe how tube voltage, current, exposure time, and tissue compression affect the radiation dose to the patient;
10. select the correct technical variable based on variations in breast anatomy;
11. describe a picture archiving and communications system (PACS) and its function;
12. identify components of a PACS;
13. discuss the image storage and viewing capabilities related to digital mammography;
14. describe screening and diagnostic positions/projections used to image the breast;
15. evaluate resulting mammogram image quality for good diagnostic interpretation;
16. demonstrate and properly operate mammography equipment, including compression devices, filtration devices, the magnification setup, use of grids, and automatic exposure controls;
17. label the components of the mammographic unit;

18. define the current national guidelines and standards set forth by the Mammography Quality Assurance Advisory Committee, the Food and Drug Administration (FDA), and the American College of Radiology (ACR);
19. discuss the Mammography Quality Standards Act (MQSA) of 1992;
20. identify recommended Quality Assurance and Quality Control testing procedures according to ACR and MQSA guidelines based on analog or digital equipment; and
21. discuss the role of the physician, mammographer, and medical physicist within a quality management program.

Major Topics

I. Patient Factors
   A. Patient assessment and education
   B. Breast anatomy and physiology
   C. Treatment options/surgical concerns
   D. Radiation protection
   E. Instrumentation
      i. Mammographic equipment
      ii. Technical applications
      iii. Digital acquisition
      iv. Display and informatics
II. Imaging Procedures
   A. Positioning
   B. Pathology
      i. Image evaluation
      ii. Special procedures
   C. Quality Assurance
III. FDA/MQSA requirements
   A. Quality Assurance of equipment
   B. Accreditation requirements for compliance

Course Requirements

Grading procedures will be determined by the individual faculty member but will include the following:

Grading/exams

- A minimum of five discussion board postings
- A minimum of ten quizzes
- A minimum of eight assignments including but not limited to:
  Labeling exercises
  Film critique
  Critical thinking questions
  Quality control exercises
- Comprehensive final exam

Written Assignments: Students are required to use appropriate academic resources.

A minimum score of 75% is required to pass this course. The American Registry of Radiologic Technologists (ARRT) has established a minimum scaled passing score of 75. The mammography course of study has developed standards of grading that are consistent with grading systems of other programs. Letter grades will be distributed according to the following standards:

92 – 100	A
83 – 91	B
75 – 82	C
65 – 74	D
below 65	F

Other Course Information

This course is delivered online. This course is part of the Medical Imaging Department's mammography course offerings.

Date Revised: 10/03/2018