

R T 65: MAMMOGRAPHY

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2021
Units:	3
Hours:	2.5 lecture, 1.5 laboratory per week (48 total per quarter)
Prerequisite:	R T 62A or current certification in Radiologic Technology.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- Demonstrate knowledge of the human structure, function, pathology and radiographic positioning relating to the human breast.
- Explain image production and related equipment components to the mammography imaging process including quality assurance and quality control.

Description

Technical and procedural aspects of mammography including breast anatomy, physiology, positioning, compression, quality assurance techniques, implant imaging and mass localization. Successful completion of this course entitles the student to a Certificate of Completion of a 40 hour course in mammography education. Intended for students in the Radiologic Technology Program; enrollment is limited to students accepted in the program.

Course Objectives

The student will be able to:

- Discuss methods and techniques for patient education and assessment.
- Identify and describe the instrumentation of a dedicated mammographic unit system.
- Describe various ways of maintaining and performing quality control and quality assurance in mammography.
- Identify and label normal anatomy of the human breast.
- Compare and contrast normal/abnormal radiographic appearances of the breast as related to various pathological conditions.
- Discuss the factors that affect mammographic technique and image quality.
- Describe breast positioning imaging techniques.
- Differentiate special positioning and radiographic techniques for the augmented breast, post-operative patient and breast specimen imaging.
- List and describe proper positioning methods used during general mammography, mass localization and needle localization.

Course Content

- Patient care: education and assessment (Lec)
 - Patient communication
 - Pre-exam instructions
 - Explanation of mammographic procedure

- ACS and ACR guidelines
 - Breast self-examination (BSE)
 - Clinical breast examination (CBE)
- Patient assessment
 - Epidemiology of breast cancer
 - Incidence
 - Risk factors
 - Signs and symptoms of breast cancer
 - Documentation of medical history
 - Gail Model risk assessment tool
 - Treatment options
 - Surgical options
 - Non-surgical options
 - Reconstruction
 - Tumor staging
 - Instrumentation and quality assurance (Lab)
 - Design characteristics of mammography units
 - Techniques settings
 - Mammography tube
 - Compression devices
 - Grids
 - AEC
 - Acquisition and display
 - Digital systems (CR/DR/tomosynthesis)
 - Computer aided detection
 - Quality assurance and evaluation (Lab)
 - Accreditation and certification
 - MQSA
 - Quality control
 - Technologist tests
 - Medical physicist test
 - Digital QC test
 - Anatomy and physiology (Lab)
 - External anatomy
 - Internal anatomy
 - Histology
 - Localization terminology
 - Pathology (Lab)
 - Imaging terminology
 - Benign conditions
 - High risk conditions
 - Malignant conditions
 - Mammographic technique and image evaluation (Lab)
 - Technical factors
 - Image quality evaluation
 - Breast imaging procedures (Lec)
 - Mammographic positioning
 - Standard views
 - Additional views
 - Positioning techniques
 - Special patient situations (Lec)
 - Imaging options
 - Implants
 - Augmented breast
 - Post-operative patient
 - Breast specimen imaging
 - Interventional procedures (Lec)
 - Fine needle
 - Mass localization
 - Needle localization

Lab Content

- A. Radiographic image anatomy identification
- B. Equipment recognition
- C. Quality assurance and quality control testing
- D. Radiographic pathology identification
- E. Mammographic technique and image evaluation

Special Facilities and/or Equipment

Classroom with multimedia equipment, illuminators and internet access.

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Directed readings assignments
Midterms
Final examination

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture
Discussion
Demonstration
Group activities

Representative Text(s) and Other Materials

Peart, Olive. Mammography and Breast Imaging Prep, 2nd ed.. 2018.

Peart, Olive. Lange Q & A: Mammography Examination, 4th ed.. 2018.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

- A. Weekly reading assignments from course syllabus and textbook, approximately 20-30 pages.
- B. Directed readings throughout the quarter. Assignment requires the student to answer 25 questions based on the assigned readings. Four assignments are required during the quarter.

Discipline(s)

Radiological Technology