



## EXAMPLE OF TECHNICIAN COURSE SYLLABUS:

### Competency Areas –

1. Medical infrared imaging system operations
2. Imaging laboratory standards and protocols
3. Patient preparation protocols and office procedures
4. Routine projections of the head, thorax, and breast
5. Routine projections of the upper extremities
6. Routine projections of the lumbopelvic and abdominal region
7. Routine projections of the lower extremities
8. Special considerations: positioning and projections

### Course Objectives:

#### 1) MEDICAL INFRARED IMAGING SYSTEM OPERATIONS

1. The student will be able to describe the necessary components of a medical infrared imaging system.
2. The student will be able to discuss the basic physics involved in infrared imaging as it pertains to the basic technological standards for medical infrared imaging systems.
3. The student will be able to demonstrate competency in the operation of the imaging system:
  - a. Patient data entry
  - b. Data base use and functions
  - c. Proper image quality settings (span, level, focus)
  - d. Image capture
  - e. Camera calibration (single point and complex)
  - f. Physical manipulation of the imaging system components
  - g. Exporting images

## **2) IMAGING LABORATORY STANDARDS AND PROTOCOLS**

1. The student will be able to describe the proper physical needs of a functional thermal imaging laboratory.
2. The student will be able to discuss the environmental demands and controls necessary for the capture of clinical infrared images.
3. The student will be able to discuss the physiologic reasons for the laboratory environmental acclimation of the patient and its proper application.
4. The student will be able to describe the proper maintenance of a thermal imaging laboratory.

## **3) PATIENT PREPARATION PROTOCOLS AND OFFICE PROCEDURES**

1. The student will be able to list the pre-imaging preparation instructions given to each patient.
2. The student will be able to discuss the physiological reasons for each item listed with regard to pre-imaging preparation of the patient.
3. The student will be able to properly review patient intake forms for accuracy and lead the patient through the process.

## **4) ROUTINE PROJECTIONS OF THE HEAD, THORAX, AND BREAST**

1. The student will be able to discuss the routine and special projections/positions of the head, thorax, and breast in terms of structures visualized, general body considerations, and special body considerations.
2. The student will be able to discuss the physiologic process of a thermoregulatory challenge and its proper application.
3. The student will be able to evaluate the accuracy of positioning, image quality and anatomical structures visualized on thermographic images.
4. The student will be able to apply knowledge of thermographic procedures related to the head, thorax, and breast via performance in a laboratory environment.

## Application of positioning consideration for the head, thorax, and breast:

### Head, Face, and Neck:

1. Face
2. Right Face
3. Left Face
4. Right Oblique Face
5. Left Oblique Face
6. Anterior Neck
7. Posterior Neck

### Thorax:

1. Upper Back
2. Chest
3. Full Spine

### Breast:

1. Bilateral Breast
2. Right Oblique Breast
3. Left Oblique Breast
4. Right Breast
5. Left Breast
6. Right Breast – Lift
7. Left Breast – Lift
8. Bilateral Breast – Thermoregulatory Challenge
9. Right Oblique Breast – Thermoregulatory Challenge
10. Left Oblique Breast – Thermoregulatory Challenge
11. Right Breast – Thermoregulatory Challenge
12. Left Breast – Thermoregulatory Challenge
13. Right Breast – Lift – Thermoregulatory Challenge
14. Left Breast – Lift – Thermoregulatory Challenge

## **5) ROUTINE PROJECTIONS OF THE UPPER EXTREMITIES**

1. The student will be able to discuss the routine and special projections/positions of the upper extremities in terms of structures visualized, general body considerations, and special body considerations.
2. The student will be able to discuss the physiologic process of a thermoregulatory challenge and its proper application.
3. The student will be able to evaluate the accuracy of positioning, image quality and anatomical structures visualized on thermographic images.
4. The student will be able to apply knowledge of thermographic procedures related to the upper extremities via performance in a laboratory environment.

### **Application of positioning considerations or the upper extremities:**

1. Bilateral Anterior Forearms
2. Bilateral Posterior Forearms
3. Bilateral Radial Forearms
4. Bilateral Dorsal Hands
5. Bilateral Palmar Hands
6. Bilateral Dorsal Hands – Thermoregulatory Challenge
7. Bilateral Palmar Hands – Thermoregulatory Challenge

## **6) ROUTINE PROJECTIONS OF THE LUMBOPELVIC & ABDOMINAL REGION**

1. The student will be able to discuss the routine and special projections/positions of the lumbopelvic and abdominal regions in terms of structures visualized, general body considerations, and special body considerations.
2. The student will be able to evaluate the accuracy of positioning, image quality and anatomical structures visualized on thermographic images.
3. The student will be able to apply knowledge of thermographic procedures related to the upper extremities via performance in a laboratory environment.

## Application of positioning considerations for the lumbopelvic and abdominal regions:

Lumbopelvic:

1. Lumbar
2. Gluteal

Abdominal:

1. Abdomen

## 7) ROUTINE PROJECTIONS OF THE LOWER EXTREMITIES

1. The student will be able to discuss the routine and special projections/positions of the lower extremities in terms of structures visualized, general body considerations, and special body considerations.
2. The student will be able to evaluate the accuracy of positioning, image quality and anatomical structures visualized on thermographic images.
3. The student will be able to apply knowledge of thermographic procedures related to the upper extremities via performance in a laboratory environment.

## Application of positioning considerations for the lower extremities:

1. Bilateral Anterior Thighs
2. Bilateral Posterior Thighs
3. Right Gait Thighs
4. Left Gait Thighs
5. Bilateral Anterior Legs
6. Bilateral Posterior Legs
7. Right Gait Legs
8. Left Gait Legs
9. Bilateral Dorsal Feet
10. Bilateral Plantar Feet

## **8) SPECIAL CONSIDERATIONS: POSITIONING & PROJECTIONS**

1. The student will be able to discuss the special projections/positions of each anatomic region with regard to the needs of patients who are unable to assume the standard positioning.
2. The student will be able to evaluate the accuracy of positioning, image quality and anatomical structures visualized on specialized thermographic images.
3. The student will be able to apply knowledge of thermographic procedures related to the special projections/positions of each anatomic region via performance in a laboratory environment.