# BROWARD COMMUNITY COLLEGE
# COURSE OUTLINE

**LAST REVIEW:** 2008-2009 *(i.e. 2003-2004)* **NEXT REVIEW:** 2013-2014 *(i.e. 2008-2009)* **STATUS:** A *(A, I, D)*

**COURSE TITLE:** Survey of Imaging Modalities

**COMMON COURSE NUMBER:** RTE 2573

**CREDIT HOURS:** 1

**CONTACT HOUR BREAKDOWN** *(per 16 week term)*

**CLOCK HOURS:** *(Voc. Course ONLY)*

Lecture: 16 Lab:

Clinic: Other:

**PREREQISITE(S):** RTE 2523, RTE 2523L, RTE 2623, RTE 2782, RTE 2834

**COREQUISITE(S):**

**PRE/COREQUISITE(S):** RTE 2457, RTE 2457L, RTE 2844, RTE 2385, RTE 2473

**COURSE DESCRIPTION:** **A study of diagnostic and therapeutic modalities related to medical imaging to include Computed Tomography (CT), Magnetic Resonance Imaging (MRI), Ultrasound, Nuclear Medicine, and Radiation Therapy.**

General Education Requirements – Associate of Arts Degree (AA), meets Area(s): Area
General Education Requirements – Associate in Science Degree (AS), meets Area(s): Area
General Education Requirements – Associate in Applied Science Degree (AAS), meets Area(s): Area

## UNIT TITLES

1. **Computed Tomography (CT)**
2. **Magnetic Resonance Imaging (MRI)**
3. **Ultrasound**
4. **Nuclear Medicine**
5. **Radiation Therapy**

## EVALUATION:

Please provide a brief description (250 characters maximum) that details how students will be assessed on the course outcomes.

**Assessment includes examinations, online posts, individual written paper, & group presentation project.**

**UNITS**

## Unit 1 Computed Tomography (CT)

**General Outcome:**

**1.0 The student shall be able to describe computerized tomography (CT) and discuss its relationship to radiographic imaging.**

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

**1.1** Differentiate between conventional radiography & CT.

**1.2** Discuss the invention & developmental history of CT.

**1.3** Describe the components & operation of a CT scanner.

**1.4** Discuss the technical factors employed for CT scans.

**1.5** Identify contrast media utilized for CT scans.

**1.6** Identify the clinical applications of CT.

**1.7** Discuss current & future developments in the field of CT.

**Common Course Number:** **RTE 2573**

## UNITS

### Unit 2 Magnetic Resonance Imaging (MRI)

**General Outcome:**

**2.0 The student shall be able to describe magnetic resonance imaging (MRI) and discuss its relationship to radiographic imaging.**

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

**2.1** Differentiate between conventional radiography & MRI.

**2.2** Discuss the invention & developmental history of MRI.

**2.3** Describe the components & operation of an MRI scanner.

**2.4** Discuss the technical parameters employed for MRI scans.

**2.5** Identify contrast media utilized for MRI scans.

**2.6** Identify the clinical applications of MRI.

**2.7** Discuss current & future developments in the field of MRI.

**Common Course Number: RTE 2573**

## UNITS

### Unit 3 Ultrasound

**General Outcome:**

**3.0 The student shall be able to describe ultrasound and discuss its relationship to radiographic imaging.**

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

**3.1** Differentiate between conventional radiography & ultrasound.

**3.2** Discuss the invention & developmental history of ultrasound.

**3.3** Describe the components & operation of an ultrasound machine.

**3.4** Discuss the technical parameters employed for ultrasound scans.

**3.5** Identify contrast media utilized for ultrasound scans.

**3.6** Identify the clinical applications of ultrasound.

**3.7** Discuss current & future developments in the field of ultrasound.

**Common Course Number: RTE 2573**

## UNITS

### Unit 4 Nuclear Medicine

**General Outcome:**

**4.0 The student shall be able to describe nuclear medicine and discuss its relationship to radiographic imaging.**

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

**4.1** Differentiate between conventional radiography & nuclear medicine.

**4.2** Discuss the invention & developmental history of nuclear medicine.

**4.3** Describe the components & operation of gamma camera.

**4.4** Discuss the technical parameters employed for nuclear medicine scans.

**4.5** Identify radiopharmaceuticals utilized for nuclear medicine scans.

**4.6** Identify the clinical applications of nuclear medicine.

**4.7** Discuss current & future developments in the field of nuclear medicine.

**Common Course Number: RTE 2573**

## UNITS

### Unit 5 Radiation Therapy

**General Outcome:**

**5.0 The student shall be able to describe radiation therapy and discuss its relationship to radiographic imaging.**

**Specific Measurable Learning Outcomes:**

**Upon successful completion of this unit, the student shall be able to:**

**5.1** Differentiate between conventional radiography & radiation therapy.

**5.2** Discuss the invention & developmental history of radiation therapy.

**5.3** Describe the components & operation of a linear accelerator & simulator.

**5.4** Discuss the technical parameters employed for radiation therapy.

**5.5** Discuss considerations of dose & length of treatments for radiotherapy.

**5.6** Identify the clinical applications of radiation therapy.

**5.7** Discuss current & future developments in the field of radiation therapy.