

# MASTER SYLLABUS

## COURSE NO., HOURS, AND TITLE:

RAD 437 (3 Hrs.) – Physics, Instrumentation and Cardiac Image Acquisition

## COURSE DESCRIPTION:

An examination of the physics and dosimetry of ionizing radiation and the use of radiation for image formation. Dose tracking and patient safety is included as well as imaging techniques. Prerequisite: concurrent enrollment in RAD 407, RAD 417 and RAD 427. Restricted to Cardiac-Interventional Radiography students only.

## PREREQUISITES TO:

RAD 447, RAD 457, RAD 467 & RAD 477

## COURSE OBJECTIVES:

1. Demonstrate an understanding of the physics principle responsible for equipment operation and image formation
2. Demonstrate an understanding of the dosimetry resulting from imaging procedures
3. Demonstrate an understanding of patient dose and minimizing radiation
4. Demonstrate an understanding of imaging techniques

## TOPICAL OUTLINE:

<b>I</b>	Physics	20%
<b>II</b>	Instrumentation and Operation	20%
<b>III</b>	Patient Safety	20%
<b>IV</b>	Image Formation	20%
<b>V</b>	Dosimetry	20%

## TEXTBOOKS:

### Required:

Kaufman, J. A., & Lee, M. J. (2014). *Vascular and interventional radiology*. Philadelphia: Elsevier/Saunders.