MAT-140: MATH FOR RADIOGRAPHERS

Time Stamp:
Tue Jun 11 2024 14:11:41 GMT-0500 (CDT)

History

a. May 5, 2018 by mshepard
b. Nov 4, 2018 by magro
c. Feb 2, 2024 by Patricia Galardi (pgalardi)

Last approved: Fri, 02 Feb 2024 09:29:07 GMT
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Course Type:
Credit

Credit Type:
Institutional

Course Prefix:
MAT
Course Number:
140

Course Capacity:
28

General Education?
No

Department:
Mathematics (MATH)

Division:
School of Business, Mathematics, Engineering and Technologies

Course Title:
Math for Radiographers

Effective Date:
Spring 2023

Credit Hours:
Lecture: 1
Lab:
Recitation:
Clinical:
Cooperative:
Studio:
TOTAL: 1

Catalog Credits:
1

Course Fee:
No

Catalog Course Description:
This course discusses the math skills that are crucial in the healthcare environment. It teaches the basis measurements, calculations, percents, ratios, and proportions, scientific notation, metric conversions, basis algebraic principles and basic geometric principles

used in Radiology. It reviews whole numbers, fractions, decimals and exponents. Radiology units and numeric prefixes are also discussed.

Catalog Prerequisites:

MAT-016 or MAT-026 and admission to the Radiography program - Must be completed prior to taking this course.

Corequisites:

RAD-100, RAD-104 and RAD-107

Crosslisted

No

Textbooks:

Title	Ed	Author(s)	Publisher	ISBN	Req/Rec
Applied Radiographic Calculations	Latest	Dennis, Cynthia, and Ronald Eisenberg	Saunders		Required

Supplemental Materials:

Calculator

Specialized equipment, supplies, facilities, for classes limited by enrollment or restricted by accreditation and/or equipment limitations:
(Information will be used to determine differential funding category.)

Course Content:

Topics

1. Basic Mathematical Concepts: Fractions, Percentages, Ratios and proportions, Algebraic principles, Geometric principles, Exponents, Scientific notation, Metric system and conversions.
2. Radiographic Calculations: mAs conversions, Inverse Square Law, Density, Radiographic Contrast, Radiographic Screen Speed, Grid ratio, Geometric unsharpness, Magnification unsharpness, Graphs, Conventional Radiographic Units and Conversions, Physics Formulas.
3. Practical Applications

Statement of Course Learning Outcomes:

Learning Outcomes

1. Recall and perform calculations using basic mathematical concepts.
2. Recite and solve basic physics problems
3. Construct and analyze graphs from measurements and/or observations
4. Formulate technical factors to compensate for the variations that occur in all Radiology departments.
5. Manipulate technical factors to determine greatest radiographic density.

Statement of Relation to Curriculum(s):

This course is a first semester primary course and is required for students in the Radiography Program. This course provides a review of the fundamentals of mathematics and shows you how to use these basics to solve problems used in the radiology department. Furthermore, it provides you with entrance level skills to help you prepare to take RAD 110, Radiation Biology and Physics, and to produce consistently high quality images during your clinical experiences.

Format for offering the course:

(check all that apply)

Traditional

Key: 6392