COURSE OUTCOME MATRIX
COURSE SYLLABUS
PART 2 of 3

Course Number and Title	CT 268 Computed Tomography Physics

Credit Hours	3

Course Description	This course provides a thorough understanding of the physical principles involved in computed tomography, as well as instrumentation. The historical development and evolution of computed tomography will be reviewed. Physics topics covered include the characteristics of x-radiation, CT beam attenuation, linear attenuation coefficients, tissue characteristics, and the Hounsfield number system. Computed tomography systems and operations will be explored with full coverage of radiographic tube configuration, collimator design and function, characteristics and functions of the CT computer and array processor.

Prerequisite(s) and/or Corequisite(s)	CT 260 and Admission to the Radiologic Technology program and ARRT or ARRT eligible or permission of the program coordinator None

Required Textbooks/References/Course Materials:

Computed Tomography for Technologists: A Comprehensive Text - With Access	2nd	Lois E. Romans	LWW	1496375858
Computed Tomography - Physical Principles, Applications, and Quality Control	4th	Euclid Seeram	Elsevier Science	0323312888

	General Education Outcomes
1	Utilize written and verbal language to discuss and comprehend information, incorporating a variety of technologies, such as text, data, and images (written language, verbal language, and information technology).
2	Identify and interpret relevant information in order to formulate an opinion or conclusion (critical thinking).
3	Demonstrate and communicate computational methods and mathematical reasoning in a variety of formats (using words, tables, graphs, mathematical equations, etc., as appropriate) (quantitative literacy and fluency).
4	Communicate in appropriate ways with those who are culturally diverse (intercultural competence).

	Program/Department Outcomes
1	Prepare students to become safe and competent radiographers.
2	Provide educational opportunities for students to possess critical thinking skills.
3	Demonstrate responsible professional attitudes and behaviors.
4	Use effective communication.

	Course Outcomes (CO)	Bloom's Domain for CO (C, A, P), Category, and Level	Program/ Department Outcome(s)	Written Language	Verbal Language	Information Technology	Critical Thinking	Quantitative Literacy and Fluency	Intercultural Competence
1	Explain the physical principles, including instrumentation.	C Understanding 2	2,4	1	1	1	1	1	0
2	Recall historical developments and evolution of CT.	C Remembering 1	4	1	1	1	0	0	0
3	Describe related physics topics.	C Remembering 1	4	1	1	1	0	1	0
4	Compile list of CT systems and operations	C Creating 6	2,4	1	1	1	1	1	0
5	Identify CT computer characteristics, functions, and processes.	C Analyzing 4	2,4	1	1	1	1	1	0

Bloom's Domain Legend
C = Cognitive
A = Affective
P = Psychomotor

General Education Outcome Legend
2 = Included and Measurable
1 = Introduced and/or Minimally Addressed and Not Measurable
0 = Not included

Approved: May 2021
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