Radiography

Degrees:

AAS:	Radiography	
	- Track 1	73-75
	- Track 2	71-73
Diploma:	Radiography	
	- Track 1	58-62
	- Track 2	56-60
Certificate:	Advanced Imaging in Radiography	
	Computed Tomography	12
	Magnetic Resonance Imaging	12

Note: *Hours Exception (71-75) approved by the KCTCS Board of Regents in June 2010*

Description:

This program prepares the individual to become a radiographer. The radiographer is prepared to administer ionizing radiation for medical diagnostic imaging purposes. Emphasis is on radiation protection and quality patient care. The curriculum is comprised of specialized courses in radiography with concentrated study in the basic sciences, mathematics and general education. Students enrolled in the Radiography program must achieve a minimum grade of "C" in each Radiography course. Upon completion of the program, the graduate is eligible to apply to write the examination for registration as a radiographer by the American Registry of Radiologic Technologists. Radiographers may find positions in hospitals, health clinics, and physicians' offices. Research laboratories and some industrial firms may also employ radiographers. The curriculum requires attendance in the summer session, fall and spring semesters. Note: CPR certificate must be obtained prior to enrolling in IMG 100 or IMG 104, IMG 106 and IMG 108 and certification must be kept current throughout the program. Note: Documentation of computer literacy as defined by KCTCS is required prior to admission to IMG courses.

Advanced Imaging in Radiography focuses on the areas of Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) in the Radiological Sciences. Didactic instruction prepares the technologist to work in the areas of CT and MRI in the healthcare setting and to sit for the Advanced Board Exams given by the American Registry of Radiologic Technologists. These courses are offered for technologists who are currently registered by the American Registry of Radiologic Technologists in Radiography or the Nuclear Medicine Technology Certification Board in Nuclear Medicine, or students who have completed one year and are currently enrolled in an accredited radiography or nuclear medicine program, or by consent of the instructor. The core curriculum courses are intended to provide the student with an overall knowledge of advanced patient care and sectional anatomy. The CT and MRI tracks focus on the physics, instrumentation and imaging techniques of these modalities. The student may choose CT or MRI or both. Although these courses are organized in a hierarchical pattern, depending on the entry-level knowledge and the needs of the student, they may be taken out of sequence with consent of the instructor.

Implementation: Spring 2012

Competencies/Student Outcomes:

AAS in Radiography

(Technical Competencies: (also Diploma in Radiography)

Upon completion of the program, the graduate can:

General Education Competencies: (Competencies will be met at the level appropriate to the credential.)

I. Communicate Effectively
   1. Read and listen with comprehension.
   2. Speak and write clearly using standard English.
   3. Interact cooperatively with others using both verbal and non-verbal means.
   4. Demonstrate information processing through basic computer skills.

II. Think Critically
   1. Make connections in learning across the disciplines and draw logical conclusions.
   2. Demonstrate problem solving through interpreting, analyzing, summarizing, and/or integrating a variety of materials.
   3. Use mathematics to organize, analyze, and synthesize data to solve a problem.

III. Learn Independently
   1. Use appropriate search strategies and resources to find, evaluate, and use information.
   2. Make choices based upon awareness of ethics and differing perspectives/ideas.
   3. Apply learning in academic, personal, and public situations.
   4. Think creatively to develop new ideas, processes, or products.

IV. Examine Relationships in Diverse and Complex Environments
   1. Recognize the relationship of the individual to human heritage and culture.
   2. Demonstrate an awareness of the relationship of the individual to the biological and physical environment.
   3. Develop an awareness of self as an individual member of a multicultural global community.

Technical Competencies: (also Diploma in Radiography)

1. Accurately demonstrate anatomical structures on imaging receptors.
2. Determine exposure factors to achieve optimum radiographic results (or images) with minimum radiation exposure to the patient.
3. Evaluate radiographic images for appropriate positioning and image quality.
4. Practice radiation protection for the patient, self, and others.
5. Provide patient care and comfort.
6. Recognize emergency patient conditions and initiate life-saving first-aid and basic life support procedures.
7. Evaluate the performance of radiologic systems, know the safe limits of equipment operation, and report Malfunctions to the proper authority.
8. Exercise independent judgment and discretion in the technical performance of medical imaging procedures.
9. Participate in radiologic quality assurance programs.
10. Collaborate with members of the health team.

Program Title: **Advanced Imaging in Radiography – Computed Tomography**

Upon completion of this program, the graduate can:

1. Optimize safety protocols necessary for advanced imaging procedures in Computed Tomography.
2. Identify the disease process, pathology or abnormal conditions through the use of advanced modalities in Computed Tomography.
3. Equip graduates with the knowledge needed to be competitive in an ever changing medical imaging field.
4. Assist the Radiographer preparing for an advanced certification exam in Computed Tomography.

Program Title: Advanced Imaging in Radiography – Magnetic Resonance Imaging

Upon completion of this program, the graduate can:

Proposed:

1. Optimize safety protocols necessary for advanced imaging procedures in Magnetic Resonance Imaging.
2. Identify the disease process, pathology or abnormal conditions through the use of advanced modalities in Magnetic Resonance Imaging.
3. Equip graduates with the knowledge needed to be competitive in an ever changing medical imaging field.
4. Assist the Radiographer preparing for an advanced certification exam in Magnetic Resonance Imaging.

Outlines:

Program Title: AAS in Radiography

Course Prefix	Course Number	Course Title	Credit Hours
		General Education:	
		Social/Behavioral Sciences	3
		Heritage/Humanities	3
		Oral Communications	3
ENG	101	Writing I	3
MAT	150	College Algebra OR	3
		Higher Level Quantitative Reasoning Course	(3)
BIO	137	Human Anatomy & Physiology I	4
BIO	139	Human Anatomy & Physiology II	4
PHY	172	Physics for Health Sciences OR	2
PHY	152	Introduction to Physics OR	(3)
PHY	171	Applied Physics	(4)
		Subtotal	**25-27**
		Support Course:	
CLA	131	Medical Terminology from Greek & Latin OR	3
AHS	115	Medical Terminology	(3)
		Subtotal	**3**
		Technical Courses: (Track 1)	
IMG	100	Radiography I	7
IMG	101	Clinical I	4
IMG	110	Radiography II	7
IMG	111	Clinical II	4
IMG	201	Clinical III	3
IMG	210	Radiography IV	4
IMG	211	Clinical IV	6
IMG	220	Radiography V	4
IMG	221	Clinical V	6
		Subtotal	**45**
		Total Credits Track 1	**73-75**
		Technical Courses: (Track 2)	
IMG	104	Introduction to Radiography	2
IMG	106	Patient Care in Radiography*	2
IMG	108	Radiographic Procedures I	4
IMG	109	Clinical Practice I	1
IMG	114	Image Production and Acquisition	2
IMG	116	Advanced Patient Care in Radiography	2
IMG	118	Radiographic Procedures II	4
IMG	119	Clinical Practice II	3
IMG	209	Clinical Practice III	3
IMG	214	Imaging Equipment	2
IMG	216	Basic Computed Tomography	1
IMG	219	Clinical Practice IV	6
IMG	224	Radiation Protection & Biology	2
IMG	226	Radiography Pathology	1
IMG	228	Radiography Seminar	2
IMG	229	Clinical Practice V	6
		Subtotal	**43**
		Total Credits Track 2	**71-73**

*NAA 100 may be substituted for IMG 106.

Program Title: Diploma in Radiography

Course Prefix	Course Number	Course Title		Credit Hours
		General Education:		
TEC	200	Technical Communications OR		3
		Oral Communications		(3)
BIO	137	Human Anatomy & Physiology I AND		4
BIO	139	Human Anatomy & Physiology II OR		4
BIO	135	Basic Anatomy and Physiology with Laboratory		(4)
MAT	150	College Algebra OR		3
MAT	110	Applied Mathematics		(3)
			Subtotal	**10-14**
		Support Course:		
CLA	131	Medical Terminology from Greek & Latin OR		3
AHS	115	Medical Terminology		(3)
			Subtotal	**3**
		Technical Courses: (Track 1)		
IMG	100	Radiography I		7
IMG	101	Clinical I		4
IMG	110	Radiography II		7
IMG	111	Clinical II		4
IMG	201	Clinical III		3
IMG	210	Radiography IV		4
IMG	211	Clinical IV		6
IMG	220	Radiography V		4
IMG	221	Clinical V		6
			Subtotal	**45**
			Total Credits Track 1	**58-62**
		Technical Courses: (Track 2)		
IMG	104	Introduction to Radiography		2
IMG	106	Patient Care in Radiography*		2
IMG	108	Radiographic Procedures I		4
IMG	109	Clinical Practice I		1
IMG	114	Image Production and Acquisition		2
IMG	116	Advanced Patient Care in Radiography		2
IMG	118	Radiographic Procedures II		4
IMG	119	Clinical Practice II		3
IMG	209	Clinical Practice III		3
IMG	214	Imaging Equipment		2
IMG	216	Basic Computed Tomography		1
IMG	219	Clinical Practice IV		6
IMG	224	Radiation Protection & Biology		2
IMG	226	Radiography Pathology		1
IMG	228	Radiography Seminar		2
IMG	229	Clinical Practice V		6
			Subtotal	**43**
			Total Credits Track 2	**56-60**

*NAA 100 may be substituted for IMG 106.

Program Title: **Advanced Imaging in Radiography**

Course Prefix	Course Number	Course Title	Credit Hours
		Core	
IMG	230	Sectional Anatomy for Advanced Imaging	3
IMG	240	Pathology for Advanced Medical Imaging Modalities	3
		Subtotal	6
		Computed Tomography Track	
IMG	250	Computed Tomography Physics and Instrumentation	3
IMG	260	Computed Tomography Imaging Procedures	3
		Subtotal	6
		Total Credits	12
		Magnetic Resonance Imaging Track	
IMG	255	Magnetic Resonance Physics and Instrumentation	3
IMG	265	Magnetic Resonance Imaging Technology	3
		Subtotal	6
		Total Credits	12

Dates of Actions:
Approved: Spring 2001
Revised: Fall 2003; Fall 2007; March 2009; October 2009; February 2011; October 2011