

**BACHELOR OF RADIOLOGIC AND IMAGING SCIENCES DEGREE**

**INFORMATION PACKET**

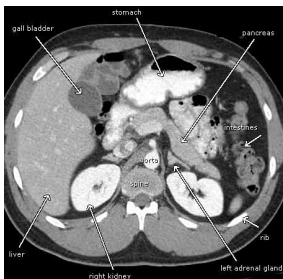
**For Fall Semester 2022**

**Computed Tomography (CT)**

**Certificate or Bachelor Degree Programs Available**

**ONLINE or HYFLEX Options**

**Application Deadline: *July 1, 2022***



***Program Advisor***

**Jan Gibson M.Ed., R.T. (R)**

Senior Program Director Radiology  
Kent State University at Salem  
2491 State Route 45 South  
Salem, OH 44460  
Phone 330 337 4223  
Email: [jjgibso1@kent.edu](mailto:jjgibso1@kent.edu)

***“The skills I learned in the coursework and at clinicals throughout the CT program fully prepared me to further my career in a healthcare system.”***

*Megan Tyndall, 2018 Graduate of the CT program at Kent State University*

## Kent State University Radiologic and Imaging Sciences

**Applicants must have graduated from an accredited program in radiologic technology, nuclear medicine, or radiation therapy and are registered by the American Registry of Radiologic Technologists (ARRT) in radiologic technology or radiation therapy or by the Nuclear Medicine Technology Certification Board (NMTCB) in nuclear medicine.**

Computed Tomography (CT) offers two options:

1. The **Certificate Program** offers Radiologic and Imaging (RIS) coursework specific to CT that includes Sectional Anatomy I and II, Patient Management, CT Procedures I and II, CT Image Production I and II, Pathophysiology, CT Clinical Education I, II, and III and CT Techniques (review course). Offered in 2 semesters in fall and spring with an optional summer semester with CT Clinical Education III and CT Techniques, a review course for the ARRT certification exam in CT.
2. The **Bachelor Degree Program** offers all of the above plus additional courses in Leadership, Individual Investigation, Research in Medical Imaging as well as the completion of Kent Core courses and 8 hours of upper division electives, all totaling 120 credit hours. Students who complete the certificate program can continue toward the BRIT degree at a later date if desired.

CT Course Delivery offers two options:

1. The **ONLINE** program permits students to take all courses online.
2. The **HYFLEX** program permits students to take the majority of CT (RIS) courses online but elect to take certain courses through Zoom or Teams on Tuesdays with attendance in a synchronous (live) class and ask the instructor questions in real time. Courses include CT Procedures I & II and CT Image Production I & II courses. The CT Techniques course is partially online and partially Hyflex.

Clinical Education courses require students to complete 15 hours per week of clinicals to complete clinical competencies for the American Registry of Radiologic Technologists (ARRT) certification exam in CT. Students are responsible for obtaining their clinical site by July 15<sup>th</sup> so an affiliation agreement can be completed between Kent State University and the health care facility.

### **Mission of the Program**

The mission of the CT program is to educate CT students in the knowledge, skills and attitude to become qualified practitioners who provide quality service and care to the community and to prepare students for the changing needs of the profession. Kent State University transforms lives and communities through the power of discovery, learning and creative expression in an inclusive environment.

### **Goals of the CT Program**

1. Students will successfully complete all academic requirements for the application of knowledge to the practice of computed tomography.
2. Students will effectively utilize critical thinking, problem-solving and decision-making skills in the practice of computed tomography.
3. Students will effectively communicate in oral and written form with patients, customers, and all members of the health care team.
4. Students will successfully perform computed tomography procedures and attain results of high diagnostic value, while providing patient care.
5. Students will exhibit personal and professional attributes and values relevant to the practice of CT.

**Employment:** 13% job growth rate with over 30,000 new jobs expected by 2026  
\$63,585 Median Annual Salary for CT technologists



Photos courtesy of Peter Apicella, M.D., Chairman Department of Medical Imaging, Salem Regional Medical Center, Salem, Ohio

**Admission Requirements, applicants must meet the following requirements to be considered:**

1. Graduation from an accredited radiologic technology, nuclear medicine or radiation therapy program and be registered by the American Registry of Radiologic Technologists (ARRT) or the Nuclear Medicine Technology Certification Board (NMTCB) prior to program acceptance.
2. Earned a cumulative grade point average of at least 2.75.
3. Completion of a college algebra course or one that equates to or at a higher level.
4. Completion of college Anatomy and Physiology I & II courses (or equivalent courses) with labs and grades of “C” or better.
5. **Apply to Kent State University, if applicable.** If an applicant is currently attending or has previously attended Kent and have not attended any other university since attending KSU, there is no need to complete this step. Once admitted to KSU, a banner (student ID) number is assigned. Please read KSU email regularly for important messages from the University.
6. Arrange to have **official transcripts** from all universities and colleges attended including medical imaging programs sent directly from those schools to Kent State Salem Campus. Students who previously attended or are currently attending KSU are not required to submit transcripts unless they have attended a college after leaving Kent State.
7. **Transfer students** will have their transcripts evaluated by Kent State University and may need to provide course descriptions and/or syllabi to determine equivalency of courses. Students can use [www.kent.edu/transfercenter](http://www.kent.edu/transfercenter) or [www.transfer.org](http://www.transfer.org) as a guide to potential applicability of transfer credits and equivalent courses.
8. CT Application found at <https://www.kent.edu/columbiana/computed-tomography-ct>  
The deadline to apply is July 1<sup>st</sup>.

***The completion of the stated minimum requirements does not guarantee program admission. Since admission into the program is selective, only those students who meet program requirements will be considered, with a limited number of students accepted.***

## CT PROGRAM

### Fall Semester: 15 weeks

RIS 44021	Patient Management in CT	2 credit hours	Online
RIS 34084	Sectional Anatomy I CT/MRI	2 credit hours	Online
RIS 44030	CT Image Production I	2 credit hours	Online or Hyflex on Tuesdays
RIS 44047	CT Procedures I	2 credit hours	Online or Hyflex on Tuesdays
RIS 44004	CT Clinical Education I	2 credit hours	Requires 15 hours per week for 13 weeks.

*The following course may be taken this semester or a future fall semester.*

RIS 44096	Ind. Investigation Med Imaging	3 credit hours	Online	Required for BRIT degree
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### Spring Semester: 15 weeks

RIS 34086	Sectional Anatomy II CT/MRI	2 credit hours	Online
RIS 44083	Pathophysiology Med. Imaging	3 credit hours	Online
RIS 44062	CT Image Production II	2 credit hours	Online or Hyflex on Tuesdays
RIS 44048	CT Procedures II	2 credit hours	Online or Hyflex on Tuesdays
RIS 44054	CT Clinical Education II	2 credit hours	Requires 15 hours per week for 15 weeks.

*The following courses may be taken this semester or a future spring semester.*

RIS 44098	Research in Medical Imaging	3 credit hours	Online	Required for BRIT degree
RIS 44088	Leadership in Medical Imaging	1 credit hour	Online	Required for BRIT degree

### Summer Semester: 5 weeks

RIS 44068	CT Techniques (review course)	2 credit hours	Partial Online and or Hyflex on Tuesdays
RIS 44069	CT Clinical Education III	1 credit hour	Course requires 15 hours per week for 5 weeks

## Bachelor's Degree in Radiologic and Imaging Sciences Technology: CT Program

CT requirements for the BRIT degree include successful completion of the following:

1. Completion of **Kent Core Requirements (or equivalent courses to be transferred)**.  
KSU courses listed:
  - 6 semester hours: English Composition: ENG 11010, 21011 College Writing I and II
  - 3-4 semester hours: MATH 10772 Modeling Algebra Plus or MATH 11009 Modeling Algebra
  - 9 semester hours: Humanities & Fine Arts (see Kent Core list)
  - 6 semester hours: Social Sciences including PSYC 11762, General Psychology
  - 6 semester hours: Sciences: Anatomy and Physiology I and II (must include labs)  
Note: BSCI 20020, Anatomy & Physiology II at KSU does not have Kent Core status.  
BSCI 11020, Foundational Anatomy & Physiology II at KSU does have Kent Core status.
  - 6 semester hours: CHEM 10050 or 10055 + Additional Kent Core courses in any category.
2. Completion of two **diversity courses**: one global and one domestic which may be Kent Core courses (**or equivalent courses to be transferred**). Designated as G = global and D = domestic
3. **8 credit hours** of upper division **electives** at the junior or senior level (KSU: 30000-40000), **or equivalent transfer courses**. Electives can be in any subject area (must meet course prerequisites)
4. Each RIS course must be completed with a minimum grade of "C" or better to continue in the program. A 2.75 cumulative GPA is required in the RIS courses to graduate with the BRIT degree.

## Course Descriptions: CT

### **RIS 34084, 34086 Sectional Anatomy I and II**

**2 semester hours each**

Sectional anatomy of the head, neck, thorax, abdomen, pelvis, and extremities is reviewed.

### **RIS 44021 Patient Management in CT**

**2 semester hours**

The principles and techniques needed to perform general patient care procedures in CT that include patient history, assessment and monitoring, universal standards, sterile technique, IV procedures and contrast administration procedures. Vital signs and venipuncture competencies are required.

### **RIS 44047, 44048 CT Procedures I and II**

**2 semester hours each**

The courses provide information on patient positioning, protocol selections, parameter selection, image display, filming and archiving, and evaluation of images. Procedural areas include head, neck, chest, abdomen, pelvis, musculoskeletal, interventional and special procedures.

### **RIS 44030, 44049 CT Image Production I and II**

**2 semester hours each**

The courses provide information on computer fundamentals, operations and applications, principles of CT system operation and components, image processing and display, image quality and artifacts.

### **RIS 44004, 44054, 44069 CT Clinical Education I, II, III**

**I-2 hr, II-2 hr, III-1 hr**

Provides clinical education and experience at a clinical education setting in order to allow the student the opportunity to practice skills necessary to obtain high quality CT images, to objectively alter protocols based on patient pathology or physical condition, and to identify image quality problems and make appropriate corrections.

### **RIS 44083 Pathophysiology for Medical Imaging**

**3 semester hours**

Provides students with basic information on the causes of diseases and the body's response to disease, as well as the medical imaging modalities that will demonstrate them.

### **RIS 44096 Individual Investigation in Medical Imaging**

**3 semester hours**

Student selects prescribed number of medical imaging journal articles, completes questions, paper and presentation.

### **RIS 44098 Research in Medical Imaging**

**3 semester hours**

Fundamental concepts and procedures for systematic collection, analysis, critique and application of qualitative and quantitative data in medical imaging. Prerequisites: radiologic and imaging sciences (RIS) major and senior standing. This course is used to satisfy the Writing-Intensive Requirement required for the BRIT degree.

### **RIS 44088 Leadership in Medical Imaging**

**1 semester hour**

Online course to learn fundamentals of radiology management and leadership skills.

### **RIS 44068 CT Techniques**

**2 semester hours**

Prepares students for ARRT certification exam with review and simulated exams and analysis