KENT STATE UNIVERSITY

BACHELOR OF RADIOLOGIC AND IMAGING SCIENCES DEGREE

INFORMATION PACKET

For Fall Semester 2020

Magnetic Resonance Imaging (MRI)
HYBRID Program

Application Deadline: ***July 1, 2020***



PROGRAM ADVISORS

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"Kent State University's MRI program allowed me to pursue MRI courses while maintaining my job as a radiologic technologist. The program prepared me well for the ARRT certification exam in MRI and permitted me to build contacts at several local hospitals toward employment as an MRI Technologist."

Gregory Lowe, R.T., (R)(MR), 2015 Graduate of the MRI Program at Kent State University

Kent State University Bachelor Degree of Radiologic and Imaging Sciences

Applicants must have graduated from an accredited program in radiologic technology, nuclear medicine, 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. Applicants who have graduated from a Diagnostic Medical Sonography programs may also apply who are also registered by the American Registry of Diagnostic Medical Sonography (ARDMS).

The hybrid program permits students to take the majority of MRI (RIS) courses online but wish to take 5 courses face-to-face at the Salem Campus on Tuesday evenings. These courses include MRI Procedures I & II, MRI Equipment and Image Acquisition I & II, and MRI Techniques.
MRI Clinical Education I, II, III require 15 hours/week of clinicals at an affiliated hospital.

Magnetic Resonance Imaging (MRI) is a concentration in the Radiologic and Imaging Sciences (RIS) major in the Bachelor of Radiologic and Imaging Sciences Technology (BRIT) degree. Upon acceptance in the MRI program, students will complete MRI didactic and clinical courses prior to taking the American Registry of Radiologic Technologists (ARRT) MRI certification exam

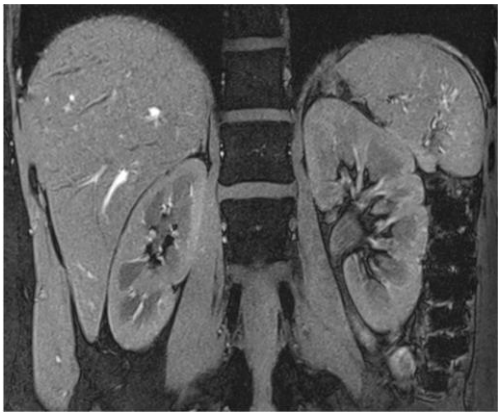
The Mission of the Program

The mission of the MRI program is to educate MRI 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 MRI Program

1. Students will successfully complete all academic requirements for the application of knowledge to the practice of magnetic resonance imaging.
2. Students will effectively utilize critical thinking, problem-solving and decision-making skills in the practice of magnetic resonance imaging.
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 magnetic resonance imaging 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 magnetic resonance imaging.

Employment: 13% job growth rate with over 30,000 new jobs expected by 2026
$69,930 Median Annual Salary for MRI 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, radiation therapy or diagnostic medical sonography program and be registered by the American Registry of Radiologic Technologists (ARRT) or the Nuclear Medicine Technology Certification Board (NMTCB) or the ARDMS prior to program acceptance.

2. Earned a cumulative grade point average of at least 2.50.

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.

6. **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.

7. Arrange to have **official transcripts** from high school and all universities and colleges attended including medical imaging programs sent directly from those schools. 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. Please send to:

   Office of Admissions
   Kent State University at Salem
   2491 State Route 45 South
   Salem, OH 44460

8. **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 go to www.kent.edu/transfer as a guide to potential applicability of transfer credits and equivalent courses.

9. Receive the **hybrid application** by emailing Sherry DeWitt at sdewitt@kent.edu

Deadline: The application must be submitted no later than July 1st.

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.

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

MRI requirements for the degree include successful completion of the following:

1. Prior completion of a radiologic technology, nuclear medicine, radiation therapy or diagnostic medical sonography program.

2. Completion of **Kent Core Requirements or equivalent**. See next page. 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 <u>not</u> have Kent Core status.
     BSCI 11020, Foundational Anatomy & Physiology II at KSU does have Kent Core status.
   - 6 semester hours: Additional Kent Core courses in any category.

3. Completion of two **diversity courses**: one global and one domestic. Diversity courses may be Kent Core courses **(or equivalent courses to be transferred)** as designated on the list (G = global and D = domestic courses).

4. **8 credit hours** of <u>upper division electives</u> at the junior or senior level (KSU: 30,000-40,000). Electives can be in any subject area, but course prerequisite(s) must be met.

5. Clinical education courses permit the completion of the required ARRT MRI competencies.

6. 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.

Fall Semester: 15 weeks

RIS 34084 Sectional Anatomy I for CT/MRI	2 credit hours Online
RIS 44031 Patient Management in MRI	2 credit hours Online
RIS 44044 MRI Procedures I	2 credit hours Onground at Salem Campus Tuesday Evenings
RIS 44051 MRI Equip. & Image Acquisition I	2 credit hours Onground at Salem Campus Tuesday Evenings
RIS 44003 MRI Clinical Education I	2 credit hours Course requires 15 hours/week for 13 weeks

The following two courses may be taken this semester or a future fall semester:

RIS 44088 Leadership in Medical Imaging	1 credit hour Online
RIS 44096 Individual Invest. Medical Imaging	3 credit hours Online

Spring Semester: 15 weeks

RIS 34086 Sectional Anatomy II for CT/MRI	2 credit hours Online
RIS 44045 MRI Procedures II	2 credit hours Onground at Salem Campus Tuesday Evenings
RIS 44052 MRI Equip. & Image Acquisition II	2 credit hours Onground at Salem Campus Tuesday Evenings
RIS 44083 Pathophysiology for Med. Imaging	3 credit hours Online
RIS 44063 MRI Clinical Education II	2 credit hours Course requires 15 hours/week for 15 weeks

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

RIS 44098 Research in Medical Imaging	3 credit hours Online

Summer Semester: 5 weeks (Mid-May to Mid-June)

RIS 44066 MRI Techniques (review course)	2 credit hours Partial Online and Onground @ Salem Tues. Eve
RIS 44073 MRI Clinical Education III	1 credit hour Course requires 15 hours/week for 5 weeks

Course Descriptions: MRI

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 44031 Patient Management in MRI **2 semester hours**
The principles and techniques needed to perform general patient care procedures that include patient screening, assessment and monitoring, safety precautions and biological considerations, IV procedures, and contrast administration procedures. Vital signs and venipuncture competencies are required.

RIS 44044, 44045 MRI Procedures I and II **2 semester hours each**
This course will provide the student with imaging techniques related to the central nervous system, neck thorax, musculoskeletal system and abdominopelvic regions. Specific clinical applications, coils that are available and their use, considerations in the scan sequences, specific choices in the protocols, and positioning criteria will be covered. Anatomical structures and the plane that best demonstrates anatomy will be discussed as well as signal characteristics of normal and abnormal structures.

RIS 44051, 44052 MR Equipment & Image Acquisition I and II **2 semester hours each**
Provides the student with a comprehensive overview of MR imaging to include instrumentation, magnetism, NMR Signal Production, Tissue Characteristics, Spatial Localization, Pulse Sequencing, Imaging Parameters/Options, Special Applications, Safety, and Quality Assurance.

RIS 44003, 44063, 44073 MRI Clinical Education I-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 MR 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 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 44096 Individual Investigation in Medical Imaging **3 semester hours**
Student selects prescribed number of medical imaging journal articles, completes questions, paper and presentation.

RIS 44088 Leadership in Medical Imaging **1 semester hour**
Online course to learn fundamentals of radiology management and leadership skills.

RIS 44066 MRI Techniques **2 semester hours**
Prepares students for ARRT certification exam.