



Washtenaw Community College

WASHTENAW COMMUNITY COLLEGE

RADIOGRAPHY PROGRAM

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ANN ARBOR, MICHIGAN 48105-0978

RADIOGRAPHY PROGRAM HANDBOOK

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The purpose of the Washtenaw Community College (WCC) Radiography Student Handbook is to provide students important information that is specific to the Radiography Program. This handbook is a supplement to the WCC College Catalog and WCC College Student Handbook.

The radiography faculty reserves the right to change any policies and procedures as necessary. Written notification to currently enrolled students will be provided for any changes.

Acknowledgments

A sincere thank you goes to the clinical instructors for their hard work and dedication to the student body and radiography program. I would also like to thank these individuals for their suggestions and critique of the handbook. Their input helped fill the gaps and answer questions that can only increase the efficiency of clinical education. Thanks again. A special thank you to Robert Nelson and Jerry Baker for providing support and seasoned expertise. Your advice was well taken! I would also like to thank the radiographers and supporting staff that contributes their time and skills in making the clinical experience productive for our students. The program faculty and student body appreciate your efforts in making our program a success. Thank you.

Accreditation

Institutional Accreditation

Washtenaw Community College is accredited by The Higher Learning Commission

230 South LaSalle Street, Suite 7-500
Chicago, IL 60604
Phone: 800.621.7440
Email: <http://www.hlcommission.org/>

Programmatic Accreditation

Joint Review Committee on Education in Radiologic Technology (JRCERT)
20 N. Wacker Drive, Suite 2850
Chicago, IL 50505
Phone: 312.704.5300
Email: <http://www.jrcert.org/>

JRCERT Standards

The program is required to be in compliance with the Joint Review Committee on Education in Radiologic Technology (JRCERT) Standards for Accredited Educational program in Radiologic Sciences. The JRCERT **Standards** are designed to promote academic excellence, patient safety, and quality healthcare. The **STANDARDS** require a program to articulate its purposes; to demonstrate that it has adequate human, physical, and financial resources effectively organized for the accomplishment of its purposes; to document its effectiveness in accomplishing these purposes, and to provide assurance that it can continue to meet accreditation standards. There are six (6) standards:

Standard One: Integrity

The program demonstrates integrity in the following: representations to communities of interest and the public, pursuit of fair and equitable academic practices, and treatment of, and respect for, students, faculty, and staff.

Standard Two: Resources

The program has sufficient resources to support the quality and effectiveness of the educational process.

Standard Three: Curriculum and Academic Practices

The program's curriculum and academic practices prepare students for professional practice.

Standard Four: Health and Safety

The program develops and implements a system of planning and evaluation of student learning and program effectiveness outcomes in support of its mission.

Standard Five: Assessment

The program develops and implements a system of planning and evaluation of student learning and program effectiveness outcomes in support of its mission.

Standard Six: Institutional/Programmatic Data

The program complies with JRCERT policies, procedures, and **STANDARDS** to achieve and maintain specialized accreditation.

A copy of the complete JRCERT Standards can be obtained from the program director and are also available on the JRCERT website at www.jrcert.org.

Non-compliance with JRCERT Standards

Students have the right to submit allegations against a JRCERT accredited program if there is a reason to believe that the program is in non-compliance with the JRCERT accreditation standards or that conditions at the program appear to jeopardize the quality of instruction or the general welfare of its students.

An investigation into allegations of non-compliance addresses only the program's compliance with accreditation standards and will not affect the status of any individual student. The following procedures have been developed to resolve issues or concerns regarding compliance with the JRCERT Standards for an Accredited Educational Program in Radiography:

1. Complaints of non-compliance of JRCERT standards should first be submitted in writing to the Radiography Program Director. The complaint should state the specific standard(s) and provide a detailed explanation of the non-compliance issues.
2. The Radiography Program Director will investigate the allegation of non-compliance and respond to the complaint within 10 business days (excluding weekends and holidays).
3. If the complainant is dissatisfied with the Radiography Program Director's resolution he or she may proceed to resolve the complaint through the program/institutional grievance procedure.

4. If the student is unable to resolve the complaint through the program/institutional grievance procedure or believes that the concerns have not been properly addressed, the student may submit allegations of non-compliance directly to the JRCERT.

The Program will maintain a record of any complaints of violation and the resolution of the complaint.

General Information - College

Nondiscrimination Policy

Washtenaw Community College does not discriminate on the basis of religion, race, color, national origin, age, sex, height, weight, marital status, disability, veteran status, or any other protected status as provided for and to the extent required by federal and state statutes, nor does the college discriminate on the basis of sexual orientation, gender identity or gender expression. WCC is committed to compliance in all of its activities and services with the requirements of the Title IX of the Educational Amendments of 1972, Public Act 453, Section 504 of the Rehabilitation Act of 1973, Title VII of the Civil Rights Act of 1964 as amended, Public Act 220, and the Americans with Disabilities Act of 1990. The follow

Inquiries or complaints by students or employees regarding the College's nondiscrimination policies may be addressed to:

Linda Blakey, VP of Student & Academic Services & Title IX Coordinator
Room No: SC 247
Phone: 734-973-3536
Email: [Linda Blakey](#)

Larry Aeilts, Dean/Ombudsman
Room No: SC275
Phone: 734.973.3328
Email: [Larry Aeilts](#)

The Student Right to Know and Campus Security Act of 1990

The Student Right to Know and Campus Security Act of 1990 is a federal law that mandates the disclosure by all institutions of higher education of the rates of graduation, the number of incidents of certain criminal offenses, the type of security provided on campus, the pertinent policies regarding security on campus and policies that record and deal with alcohol and drug abuse. WCC is in full compliance and provides information annually through various means, including college publications, wccnet.edu or email. Inquiries concerning the Student Right to Know and Campus Security Act should be directed to:

Larry Aeilts, Dean/Ombudsman
Room No: SC275
Phone: 734.973.3328
Email: [Larry Aeilts](#)

Family Education Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) is a federal law that governs the privacy of student educational records, access to those records, and disclosure of information from them. WCC is committed to making sure that student rights under FERPA are protected. Questions concerning FERPA should be referred to Enrollment Services located in the Student Center Building, 2nd floor, room 203.

Campus Safety and Security Department

The Campus Safety & Security Department is the campus security authority responsible for ensuring the safety and security of the College community, buildings, and property. Its officers enforce campus safety and security regulations, including parking regulations. In case of emergency, Campus Safety and Security officers are responsible for implementing emergency procedures at Washtenaw Community College. Copies of the emergency procedures are available on the College's webpage at <http://www.wccnet.edu/services/security/emergency/>.

The Office of Campus Safety and Security Services is located on the second floor of the Campus Parking Structure on the northeast side facing the Occupational Education (OE) Building. The office is staffed 24 hours a day, 365 days a year. Security officers are on campus during evening classes and may be available for escorting students to cars at the end of evening classes. Students requiring an escort should contact the Campus Safety and Security Office. Emergency and house phones are available for contacting Campus Safety and Security. Call Campus Safety (734-973-3411 or 3411 from a College house phone) to report any suspicious activity or safety concern.

Emergency Warnings and Notification of College Closing

Bad weather, utility outages, or other circumstances may cause WCC to cancel classes or delay the start of classes. WCC has implemented an emergency notification service that sends messages to your phone, PDA, email account, or TTY/TDD device for the hearing impaired. To sign up for the WCC Alert Service log in to MyWCC and choose "WCC Alert – Emergency Notification Service."

You also can learn if WCC is closed by calling WCC's School Closing Information Line at 734.677.5288 or checking the WCC homepage at wccnet.edu. Local radio and television stations will also provide information.

Scholarships, Grants, and Financial Aid

Scholarships, grants, and other forms of financial assistance are available to aid students in completing the Radiography Program. A student may obtain information regarding scholarships, grants and financial aid from the following areas:

- Student Resource Center (SRC: 734-677-5105, SC 206, <http://src.wccnet.edu/>)
- Financial Aid Office, 2nd floor of Student Center Building, <http://www.wccnet.edu/services/financial-ai>

Student Advising/Counseling

Faculty Advisors

All radiography full-time faculty are available for advice and counsel to the radiography students. Based upon students' needs and requests, faculty advisors monitor academic achievement and provide guidance and assistance in meeting academic requirements, serve as mentors to students, assist students with study and coping skills, and write letters of recommendation.

Health Science Division Counselors

The Health Science Division has 2 academic counselors available to advise students enrolled in the health sciences programs: Contract Sue Travis at stavis@wccnet.edu or Karolyn Lehn at klehn@wccnet.edu.

Counselors

Licensed professional counselors are available to assist students with their academic, career, and personal needs. Counseling is located at SC 206 SC on the second floor of the Student Center Building. Contact the Counseling front desk at (734) 677-5102 to schedule an appointment or you can schedule an appointment from the WCC Gateway.

General Information- Radiography Program

Radiography Program Description

This program prepares students for a career in diagnostic radiology as a radiographer. A radiographer is a technologist who produces images of the human body to aid physicians in the diagnosis and treatment of injuries and diseases. The program curriculum includes a series of courses offered in conjunction with individualized laboratory work and extensive clinical experience in local hospitals. Upon completion of the program, the student will receive an Associate in Applied Science Degree in Radiography and is eligible to take the national registry examination administered by the American Registry of Radiologic Technologists (ARRT). Radiographers work in a variety of settings including hospitals, clinics, doctors' offices, and industry.

Program Philosophy

"We believe that education is an on-going and multifaceted process of change and growth for each student. Education is viewed as a give-and-take learning experience between the student and the instructor. The program faculty takes into account that students learn in different ways and at different rates. As a consequence, the curriculum and methods of instruction are constructed to accommodate individual differences as much as practical."

Robert Nelson, MS, R.T.(R) RDMS
Department Chair
Radiography Program 1967 to 1994

Radiography Program Mission Statement

The mission of the Radiograph Program is to provide an accredited two-year associate degree program that will prepare graduates for an entry-level career in the field of diagnostic medical imaging.

Statement of Professional Behavior

For many working in the imaging sciences, professional behavior is something that is not easily definable, but we know it when we see it. Students entering into the field of medical imaging may witness a variety of behaviors exhibited by those who are responsible for their training, some of which exemplify the best of the profession and some the worst. Professional behavior may also be regarded as how one considers how institutional or program policies apply to an individual such as those concerning attendance, tardiness, completing assigned tasks, and supervision. Although all

students enrolled at Washtenaw Community College are held to the college's policy on students' rights and responsibilities (see Board of Trustees Policy 4095: [Student Rights, Responsibilities, and Conduct Code](#)), the purpose of the following statement is to provide advice and guidance to students enrolled in the Washtenaw Community College Radiography Program as to what constitutes professional behavior so that they can recognize what in their own behaviors and the behaviors of others are considered professional and what is not. Each component listed in this document sets out the underpinning values and principles to promote, maintain, and disseminate the highest standards of behavior in order to enhance the good standing and reputation of the profession.*

- Radiography Students shall conduct themselves in a manner compatible with the dignity and ethical standards of the profession they are entering, and in compliance with this should follow the ARRT Code of Ethics for the Profession of Radiologic Technology, the institutional policies of their clinical site, and the program policies of the WCC Radiography Program.
- Radiography Students shall provide care and services with consideration of human dignity and the needs of the patient, unrestricted by consideration of age, sex, race, creed, social or economic status, handicap, personal attributes, or the nature of the health problem.
- Radiography Students shall make every effort to protect all patients from unnecessary radiation.
- Radiography Students should exercise and accept responsibility for their actions in the performance of the educational activities needed to build their clinical and didactic knowledge base.
- Radiography Students shall judiciously protect the patient's right to privacy and shall maintain all patient information in the strictest confidence.
- Radiography Students shall apply only methods of technology that they have received training in and which are founded upon a scientific basis and not employ those methods that violate this principle.
- Radiography Students shall not diagnose but, in recognition of their responsibility to the patient, shall provide other health-care providers with all information they have relative to radiologic diagnosis or care management.
- Radiography Students shall be responsible for reporting unethical conduct and illegal professional activities to the appropriate authorities.
- Radiography Students should continually strive to improve their knowledge and skills by participating in all clinical and didactic activities which further their education.
- Radiography Students should protect the public from misinformation and misrepresentation.
- Radiography Students should respect the authority of those responsible for their training.

**Adapted from the "Principles of Professional Conduct for Radiologic Technologists," American Registry of Radiologic Technologists.*

Code of Ethics

CODE OF ETHICS FOR THE PROFESSION OF RADIOLOGIC TECHNOLOGY

Principle 1:

The Radiologic Technologist functions efficiently and effectively, demonstrating conduct and attitudes reflecting the profession.

- 1.1 Responds to patient needs.
- 1.2 Performs tasks competently
- 1.3 Supports colleagues and associates in providing quality patient care.

Principle 2:

The Radiologic Technologist acts to advance the principle objective of the profession to provide services to humanity with full respect for the dignity of mankind.

- 2.1 Participates in and actively supports the professional organizations for radiologic technology.
- 2.2 Acts as a representative for the profession and the tenets for which it stands.
- 2.3 Serves as an advocate of professional policy and procedure to colleagues and associates in health-care delivery team.

Principle 3:

The Radiologic Technologist provides service to patients without discrimination.

- 3.1 Exhibits no prejudice for sex, race, creed, and religion.
- 3.2 Provides service without regard to social or economic status.
- 3.3 Delivers care unrestricted by concerns for personal attributes, or nature of the disease or illness.

Principle 4:

The Radiologic Technologist practices technology founded on a scientific basis.

- 4.1 Applies theoretical knowledge and concepts in the performance of tasks appropriate to the practice.
- 4.2 Utilizes equipment and accessories consistent with the purpose for which they have been designed.
- 4.3 Employs procedures and techniques appropriately, efficiently, and effectively.

Principle 5:

The Radiologic Technologist exercises care, discretion, and judgment in the practice of the profession.

- 5.1 Assumes responsibility for professional decisions.
- 5.2 Assesses situations and acts in the best interest of the patient.

Principle 6:

The Radiologic Technologist provides the physician with pertinent information related to the diagnosis and treatment management of the patient.

- 6.1 Compiles with the fact that diagnosis and interpretation are outside the scope of practice for the profession.
- 6.2 Acts as an agent to obtain medical information through observation and communication to aid the physician in diagnosis and treatment management.

Principle 7:

The Radiologic Technologist is responsible for protecting the patient, self, and others from unnecessary radiation.

- 7.1 Performs service with competence and expertise.
- 7.2 Utilizes equipment and accessories to limit radiation to the affected area of the patient.
- 7.3 Employs techniques and procedures to minimize radiation exposure to self and other members of the health-care team.

Principle 8:

- 8.1 Protects the patient's right to quality radiologic technology care.
- 8.2 Provides the public with information related to the profession and its functions.
- 8.3 Supports the profession by maintaining and upgrading professional standards.

Principle 9:

- 9.1 Protects the patient's right to privacy.
- 9.2 Keeps confidential, information relating to patients, colleagues, and associates.
- 9.3 Reveals confidential information only as required by law or to protect the welfare of the individual or the community.

Principle 10:

The Radiologic Technologist recognizes that continuing education is vital to maintaining and advancing the profession.

- 10.1 Participates as a student in learning activities appropriate to specific areas of responsibility as well as to the Scope of Practice.
- 10.2 Shares knowledge with colleagues.
- 10.3 Investigates new and innovative aspects of professional practice.

Developed by The American Society of Radiologic Technologists.

Academic Calendar

The Radiography program follows the academic calendar established for the College. The academic calendar is published on the College's webpage under Academic Dates: <http://www.wccnet.edu/academics/dates/>.

Semesters

The College has three semesters: Fall, Winter, and Spring/Summer. Students are admitted to the Radiography program in the Spring/Summer semester and must complete seven consecutive semesters of didactic and clinical instruction: Spring/Summer, Fall, Winter, Spring/Summer, Fall, Winter, Spring/Summer.

College Holidays/Breaks

The Radiography program follows the academic calendar established for the College for its breaks and holidays. The academic calendar is published on the College's webpage under Academic Dates: <http://www.wccnet.edu/academics/dates/>.

Course Schedule

Each semester the schedule for the radiography courses is listed in the Credit Class Schedule posted on the College's webpage at <http://www.wccnet.edu/academics/schedule/>.

Articulation Agreements

WCC has articulation agreements with four-year institutions, which enables radiography students to transfer credits from the Radiography Program into a specific bachelor's degree program at the other institution. Contact the radiography program director or the health counselor for a current list of articulation agreements.

Graduation Requirements

Students pursuing an associate degree are required to meet the general education requirements in eight areas: Writing, Speech, Mathematics, Natural Science, Social, and Behavior Science, Arts and Humanities, Critical Thinking and Computer and Information Literacy.

Students who have earned a bachelor's degree or higher from an accredited U.S. college or university may request a waiver of the general education requirements from Student Records located on the 2nd floor of the Student Center Building.

Students must complete all general education course requirements and radiography courses with a cumulative grade point average (GPA) of 2.0 (C) to qualify for the Associate in Applied Science degree.

Degree Awarded

Upon completion of all required program general education and radiography courses (didactic and clinical), the student will be awarded an Associate Degree in Applied Science degree and will be eligible to sit for the American Registry of Radiologic Technologists (ARRT) certification examination for radiography.

ARRT Radiography Certification and Registration

Candidates for ARRT certification and registration must meet basic education, ethics, and examination requirements to become eligible.

ARRT Education Requirement

Candidates for ARRT certification and registration must have within the last three years completed an accredited radiography program and have earned an academic degree.

ARRT Ethics Requirements

All candidates for certification must comply with the Rules of Ethics contained in the ARRT Standards of Ethics. The Rules of Ethics are standards of acceptable professional conduct for all registered technologists and candidates, intended to promote the protection, safety, and comfort of patients. The ARRT may deny applications for certification if the applicant has been found guilty of dishonesty, fraud, deceit, acts which deceive the public, felony, child abuse, sex offender crimes; acts involving narcotics, dangerous drugs or devices, assault and/or battery and other crimes.

Individuals who apply for a primary pathway to certification must answer three ethics-related questions on the application form. The questions address convictions, court-martials, disciplinary action by regulatory or other certification boards, and educational honor code violations. If you have committed a misdemeanor or felony offense, including convictions or charges resulting in a plea of guilty, plea of nolo contendere (no contest), withheld or deferred adjudication, suspended or stay of sentence, pre-trial diversion activity, or military court-martial, it is your responsibility and not the WCC Radiography Program to contact the American Registry of Radiologic Technologists (ARRT) for an Ethics Pre-Application Review of your status to be allowed to take your registry exam.

In addition, if you have ever had a license revoked or been suspended from a radiography education program prior to your admission to the WCC Radiography Program, it is your responsibility and not the WCC Radiography Program to contact the ARRT for an Ethics Pre-Application Review of your status to be allowed to take your registry exam.

More information regarding this can be found at the ARRT website www.ARRT.org under the “Ethics” subsection or call the ARRT at 651-687-0048, ext. 8580.

The decision as to your eligibility is entirely up to the ARRT, and the Washtenaw Community College Radiography Program has no influence or control over the ARRT’s judgments in these matters.

ARRT Examination Requirements

After having met the education and ethics requirements, candidates for ARRT certification and registration must pass the American Registry of Radiologic Technologists (ARRT) certification examination for radiography. After receiving a passing score on the ARRT Registry exam, the graduate becomes a certified and registered radiologic technologist and can then use the initials RT(R).

Students are responsible for any examination fees, travel expenses, or other accommodations required in order to complete the ARRT certification exam for radiography.

Annual Renewal of ARRT certification and Registration

Once certified and registered, registered radiologic technologists must renew their certification and registration each year in order to maintain the credential. To maintain your credentials you must agree to comply with the ARRT Rules and Regulations and ARRT Standards of Ethics each year, obtain 24 hours of continuing education in a two-year period, and complete the Continuing Qualification Requirements (CQR) every 10 years.

Advisory Committee

The advisory committee reviews and recommends ways for the Radiography Program to best meet the needs of students, employers, and the community. The radiography program advisory committee consists of the affiliate clinical instructors and department supervisors. The WCC program director, clinical coordinator, and the radiography faculty also serve on the advisory

committee. The advisory committee makes recommendations concerning all aspects the program, including, but not limited to, the curriculum (didactic and clinical), program mission statement and goals, annual program assessment plan and report, radiography laboratory facilities and equipment, and staffing. The Program Advisory Committee meets once in the Fall and Spring semesters.

Professional Organizations

The American Registry of Radiologic Technologist (ARRT)

The ARRT administers a comprehensive written examination to eligible graduates of educational programs in radiography, radiation therapy technology, and nuclear medicine technology, which are accredited by a mechanism acceptable to the ARRT. Graduates who pass the ARRT's examination are certified and registered in the appropriate discipline. www.arrt.org

The American Society of Radiologic Technologists (ASRT)

The ASRT is a professional membership organization representing the interests of radiographers, radiation therapy technologists and nuclear medicine technologists according to the purpose and goals stated in its by-laws. The American Society sponsors numerous educational programs for all ranks of technologists with a wide range of professional and continuing education offerings. The ASRT developed and publishes the curriculum guide for educational programs in Radiologic Technology and provides for periodic review of curricula in Radiologic Technology. www.asrt.org

The Joint Review Committee on Education in Radiologic Technology (JRCERT)

The Joint Review Committee on Education in Radiologic Technology (JRCERT) promotes excellence in education and elevates the quality and safety of patient care through the accreditation of educational programs in radiography, radiation therapy, magnetic resonance, and medical dosimetry. The JRCERT is the only agency recognized by the United States Department of Education (USDE) and the Council for Higher Education Accreditation (CHEA), for the accreditation of traditional and distance delivery educational programs in radiography, radiation therapy, magnetic resonance, and medical dosimetry. www.jrcert.org

The Michigan Society of Radiologic Technologists (MSRT)

The MSRT not-for-profit member association for radiologic technologists and student technologists in Michigan. www.msrt.org

Radiography Program Curriculum

Disclaimer: The radiography program curriculum is subject to change at the discretion of WCC and/or the radiography faculty.

Course Sequence

Program Prerequisite Courses		(11 credits)
BIO 109	Essentials of Human Anatomy and Physiology	4
HSC 101	Healthcare Terminology	1
MTH 169	Intermediate Algebra or Any Math Level 4 or Higher Course	4
RAD 100	Introduction to Diagnostic Imaging	2

Semester 1 (Spring/Summer)		(8 credits)
ENG 111	Composition I	4
RAD 101	Methods in Patient Care	1
RAD 103	Medical Professionalism in Clinical Radiography	1
RAD 111	Fundamentals of Radiography	2

Semester 2 (Fall)		(12 credits)
COM 102	Fundamentals of Speaking	3
RAD 110	Clinical Education	2
RAD 112	Radiographic Positioning I	2
RAD 124	Principles of Radiographic Exposure	2
RAD 125	Radiographic Procedures and Related Anatomy	3

Semester 3 (Winter)		(9 credits)
Course	Title	Credits
SOC 100	Introduction to Sociology	3
RAD 120	Clinical Education	2
RAD 123	Radiographic Positioning II	2
RAD 215	Radiography of the Skull	2

Semester 4 (Spring/Summer)		(6 credits)
Course	Title	Credits
RAD 150	Clinical Education	3
RAD 218	Radiation Biology and Protection	3

Semester 5 (Fall)		(11 credit)
Course	Title	Credits
RAD 190	Physical Foundations of Radiography	3
RAD 217	Clinical Education	3
RAD 222	Pharmacology in Diagnostic Imaging	2
RAD 235	Pathology for Radiographers	3

Semester 6 (Winter)		(10 credit)
Course	Title	Credits
PHL 244	Ethical and Legal Issues in Health Care	3
RAD 223	Sectional Anatomy	2
RAD 225	Clinical Education	3
RAD 232	Digital Imaging in Radiography	2

Semester 7 (Spring/Summer)		(2 credits)
Course	Title	Credits
RAD 225	Clinical Education	2
Minimum credits required for the program		69

*These courses must be taken before being admitted to the program.

**These courses may be taken before admissions to the Radiography program. (It is strongly advised that students complete the general education courses before entering the Radiography program.) Students can transfer or substitute equivalent general education courses required for the Radiography program. Contact the program advisor for approval.

Credit Hours

A credit hour is the amount of credit earned for a course based upon the number of clock hours of instruction provided for a course per week.

Lecture courses

A lecture credit hour is defined as one class hour (55 minutes) per week for 15 weeks. Typically, a three-credit hour lecture course meets three clock hours per week for fifteen weeks for a total of 45 clock hours.

Blended courses

Blended courses (also known as hybrid or mixed-mode *courses*) are classes where a portion of the traditional face-to-face instruction is replaced by web-based online learning. In the blended radiography courses, the contact hours are divided between the traditional classroom setting with an instructor and a structured online learning component outside of the classroom.

Laboratory courses

A laboratory credit hour is defined as two class hours (55 minutes) per week for 15 weeks. Typically, one credit hour laboratory course meets two clock hours per week for fifteen weeks for a total of 30 clock hours.

Clinical courses

A clinical credit hour is defined as 120 clinical clock hours per week for 15 weeks. Typically, a three-credit hour clinical course meets 24 clock hours per week for fifteen weeks for a total of 360 clock hours per semester.

Course Descriptions

RAD 100, Introduction to Diagnostic Imaging (2 credits - 30 lecture; 30 total contact hours)

Prerequisites: Academic Reading and Writing Levels of 6

This course is a prerequisite for admission to the radiography program. The purpose of this course is to provide an overview of diagnostic medical imaging modalities with an emphasis on the role of the radiologic technologist in the healthcare delivery system. Topics include the historical development of radiological sciences, professionalism, career development, organization of healthcare systems, introduction to radiographic equipment, procedures, radiation protection, and medicolegal issues.

RAD 101, Methods in Patient Care (1 credit - 15 lecture, 15 labs 30 total contact hours)

Prerequisites: Academic Reading and Writing Levels of 6; Admission to the Radiography program

This course is designed to teach the student how to therapeutically communicate with patients. Students will also learn to assess a patient's condition and how to provide quality patient care. This course will include laboratory sessions which will teach the patient care skills that are within the scope of practice for a radiologist technologist, i.e. vital signs, blood pressure, venipuncture, airway management; patient transfer and immobilization techniques; infection control practices; aseptic and non-aseptic techniques.

RAD 103, Medical Professionalism in Clinical Radiography (1 credit -15 lecture, 15 total contact hours)

Prerequisites: Academic Reading and Writing Levels of 6; Admission to the Radiography program

This course is an introduction to clinical education, clinical supervision, and professionalism in medical imaging settings. Topics include patient privacy and information confidentiality, professional behavior, student clinical skill performance and assessment, and the Clinical Instructor-student dynamic.

RAD 110, Clinical Education (2 credits - 240 clinical 240 total contact hours)

Prerequisites: Academic Reading and Writing Levels of 6; RAD 101 minimum grade "C-"

This course provides structured clinical experience in the application of knowledge and skill in positioning the upper extremity, chest, and abdomen; and demonstration of knowledge concerning professional ethics, courtesy and empathy in handling patients, film processing/imaging plate (IP) handling and image archiving and radiographic equipment.

RAD 111, Fundamentals of Radiography (2 credits - 15 lecture, 30 lab, 45 total contact hours)

Prerequisites: Academic Reading & Writing Levels of 6; Admission to the Radiography program; RAD 100 minimum grade "B-"

This course is designed to prepare students to operate radiographic equipment in the clinical setting. Students will acquire the knowledge and skills needed to operate basic fixed and mobile x-ray equipment and accessory devices that are used to produce quality diagnostic radiographic images. This course will include laboratory sessions, which will integrate the theories of image production with the practical application of equipment operation.

RAD 112, Radiographic Positioning I (2 credits - 15 lecture, 45 lab; 60 total contact hours)

Prerequisites: Academic Reading & Writing Levels of 6; RAD 101 & RAD 110, min. grade "C-"

This course presents the theories and practices that are utilized in the clinical setting to produce diagnostic radiographs of the chest, abdomen and upper extremity. Radiographic terminology, patient preparation, patient positioning, proper manipulation of radiographic equipment, radiation safety practices, image evaluation, professional standards, and medical ethics will be discussed and practiced in the laboratory setting.

RAD 120, Clinical Education (2 credits - 240 total contact hours)

Prerequisites: Academic Reading and Writing Levels of 6; RAD 110 minimum grade "C-"

This course provides structured clinical experience in the application of knowledge and skill in positioning the spinal column, lower extremities, and related anatomy. This course continues the discussion of professional ethics, courtesy, and empathy in handling patients, radiation safety, film processing/imaging plate (IP) handling, and image archiving and radiographic equipment.

RAD 123, Radiographic Positioning II (2 credits - 15 lecture, 45; 60 total contact hours)

Prerequisites: Academic Reading & Writing Levels of 6; RAD 112 and RAD 120, min. grade "C-"

This course presents the theories and practices that are utilized in the clinical setting to produce diagnostic radiographs of the lower extremity, vertebral column, and bony thorax. Radiograph terminology, patient preparation, patient positioning, proper manipulation of radiographic equipment, radiation safety practices, image evaluation, professional standards, and medical ethics will be discussed and practiced in the laboratory setting.

RAD 124, Principles of Radiographic Exposure (2 credits - 30 lecture, 15 labs, 45 total contact hours)

Prerequisites: Academic Reading and Writing Levels of 6; RAD 101 minimum grade "C-"

This course is a continuation of the material presented in RAD 111. The content of this course includes a comprehensive study of atomic theory, radiographic exposure technique, image production using analog and digital mediums, and the appropriate use of radiographic accessory devices. Students will learn theoretical principles for achieving optimal image quality and techniques for reducing patient radiation exposure. Laboratory sessions are included to provide a means of integrating theory with practical applications for use in the clinical setting. This course contains material previously taught in RAD 127.

RAD 125, Radiographic Procedures & Related Anatomy (3 credits - 45 lecture, 45 total contact hrs)

Prerequisites: Academic Reading and Writing Levels of 6; RAD 110 minimum grade "C-"

This course is designed to teach the student how to obtain quality images of the gastrointestinal system, accessory organs, urinary system and other special procedures associated with radiography. Students will also learn practical applications of contrast media and the appropriate use of fluoroscopic equipment and imaging accessories.

RAD 150, Clinical Education (3 credits - 384 clinical; 384 total contact hours)

Prerequisites: Academic Reading and Writing Levels of 6; RAD 120 minimum grade "C-"

This course provides structured clinical experience in the application of knowledge and skill in positioning the chest and thorax, abdomen, spinal column, upper and lower extremities, and related anatomy while working in general, portable and fluoroscopic radiography. The course also provides students with an opportunity to learn and demonstrate professional ethics, courtesy and empathy in

handling patients, radiation safety, film processing/imaging plate (IP) handling, and image archiving and radiographic equipment manipulation.

RAD 190, Physical Foundations of Radiography (3 credits - 45 lecture, 45 total contact hours)

Prerequisites: Academic Reading and Writing Levels of 6; RAD 110 minimum grade "C-"

This course covers the theoretical and practical application of radiation physics with an emphasis on electromagnetic radiation, electricity, magnetism, x-ray circuitry, radiation production and radiation's interaction with matter. This course was previously RAD200.

RAD 215, Radiography of the Skull (2 credits - 15 lecture, 30 labs, 45 total contact hours)

Prerequisites: Academic Reading & Writing Levels of 6; RAD 110 & RAD 120, min. grade "C-"

In this course, students learn how to obtain quality radiographic images of the skull. Students will also be able to critically analyze the radiographic images of the skull and identify the pertinent anatomy. Laboratory sessions are included to provide the student with experience in skull positioning.

RAD 217, Clinical Education (3 credits - 336 clinical, 336 total contact hours)

Prerequisites: Academic Reading and Writing Levels of 6; RAD 150 minimum grade "C-"

This course provides structured clinical experience in the application of knowledge and skill in positioning the skull and related anatomy. This course continues the discussion of professional ethics, courtesy, and empathy in handling patients, radiation safety, film processing/imaging plate (IP) handling, and image archiving and radiographic equipment.

RAD 218, Radiation Biology and Protection (3 credits - 45 lecture, 45 total contact hours)

Prerequisites: Academic Reading and Writing Levels of 6; RAD 120 minimum grade "C-"

This course will present the principles of radiobiology and radiation protection. Students will analyze the basic theories of the biological, genetic and somatic effects of radiation on human cells and tissue and learn the current radiation protection standards and practices used in the healthcare setting to protect themselves, patients and others from exposure to radiation.

RAD 222, Pharmacology in Diagnostic Imaging (2 credits - 30 lecture, 30 total contact hours)

Prerequisites: Academic Reading and Writing Levels of 6; RAD 150 minimum grade "C-"

In this course, students are provided with an introduction to pharmacology and contrast media administration as it relates to the medical imaging profession. Students gain an understanding of diagnostic contrast media and the effects of these agents on the human body. Students also receive instruction in basic techniques of venipuncture, appropriate patient care practices during drug administration and management of medical emergencies in the diagnostic imaging department.

RAD 223, Sectional Anatomy (2 credits - 30 lecture, 30 total contact hours)

Prerequisites: Academic Reading and Writing Levels of 6; RAD 217 minimum grade "C-"

This course will present an introduction to sectional anatomy. Students will learn the basic protocols for obtaining and analyzing sectional images. The sectional anatomy of the head, neck, chest, abdomen, pelvis, spine and joints will be studied.

RAD 225, Clinical Education (3 credits - 336 clinical, 336 total contact hours)

Prerequisites: Academic Reading and Writing Levels of 6; RAD 217 minimum grade "C"

This course provides continued structured clinical experience in the application of knowledge and skills for positioning the upper and lower extremities, chest, abdomen, spinal column and skull during contrast studies, surgical procedures and portable radiography. Students will demonstrate their mastery in the design and operational characteristics of equipment and accessories in diagnostic radiography.

RAD 232, Digital Imaging in Radiography (2 credits - 15 lecture, 30 labs, 45 total contact hours)

Prerequisites: Academic Reading and Writing Levels of 6; RAD 190 minimum grade "C-"

In this course, students are introduced to the physical principles of digital radiography imaging systems. Topics include digital image acquisition processing, the effective use of exposure factors for digital image receptors (computed radiography and flat-panel digital radiography), imaging physics of digital fluoroscopy and mammography, and quality control for digital radiographic equipment. The principles of image display, archiving, and retrieval commonly used for Picture Archiving Communication Systems (PACS) will also be presented.

RAD 235, Pathology for Radiographers (3 credits - 45 lecture, 45 total contact hours)

Prerequisites: Academic Reading and Writing Levels of 6; RAD 150 minimum grade "C-"

This course presents a study of pathological imaging to include respiratory, gastrointestinal and accessory organs, genitourinary, skeletal, cardiovascular, and nervous systems. This course will investigate the etiology, signs, symptoms, and primary methods of diagnosis. An emphasis is placed on radiologic visualization of pathological conditions.

RAD 240, Clinical Education (2 credits - 224 total contact hours)

Prerequisites: Academic Reading and Writing Levels of 6; RAD 225 minimum grade "C-"

This course provides structured clinical experience in the application of knowledge and skill in positioning the chest and thorax, abdomen, spinal column, skull, upper and lower extremities, and related anatomy while working in general, portable and fluoroscopic radiography. The course also provides students with an opportunity to learn and demonstrate professional ethics, courtesy and empathy in handling patients, radiation safety, film processing/imaging plate (IP) handling, and image archiving and radiographic equipment manipulation.

Clinical Education

Success in Clinical Education

To be successful in anything we feel is worth accomplishing requires complete dedication, discipline and the ability to develop practical and suitable goals. Developing goals for the tasks ahead provides a course which depending on our efforts and commitment can yield a variety of results. By enrolling in the Radiography Program you have put into place the condition for goals to be developed. Whether these goals are realized and achieved is solely up to the individual. Only the **individual** can develop his/her own personal goals. Students entering this program have two choices when assessing what they want to achieve during their training. They can either put forth maximum effort and complete the program with competent training and marketable skills or slide through with minimum exertion and develop sub-par abilities and a poor professional attitude. One of the main goals radiography students must establish to be successful in their training is to strive for excellence in the clinical setting.

Clinical education is an essential ingredient in the development of practical skills for the radiography student. Clinical education tests the student's ability to integrate what has been taught in the classroom and performed in the lab and apply this knowledge in executing specific competencies associated with the profession. Initially, students begin their clinical training in a passive mode by observing and assisting the radiographer in the examination room. As the student progresses a more active role is established by attempting basic competencies under the direct supervision of a qualified radiographer. As the student gains experience and confidence in performing a variety of radiographic procedures and is successfully evaluated and proven competent in these tasks, a gradual move into a more independent clinical performance stage evolves. This progression will continue until all required competencies are successfully completed.

The degree of commitment you put into achieving academic excellence in clinical education (and in the classroom) will determine the extent of professional satisfaction you will encounter upon completing this program. If a student is satisfied with a mediocre performance in the clinical setting and has that "just let me pass" attitude during class, he/she is assured limited professional growth IF he/she is ever able to find employment. On the other hand, if a student strives for excellence and has set practical goals for academic development, that individual will have a better opportunity for securing a position, advancement, and professional satisfaction.

As an allied health professional in training, it is essential that the radiography student learn the skills of his/her profession and the importance of working as a team. Being competent in performing the technical aspects of one's occupation is expected, but if patient care is compromised by the lack of teamwork between departments and miscommunication on patient floors, the quality is given to the patient will suffer. While in the clinical setting, students must learn the importance of developing patient care skills and professionalism. These behaviors are expected and should be one of the goals students establish at the beginning of the program--remember that the most important person in the hospital or clinic is the client, the patient we serve.

The Main Goal: Strive for Excellence and Professionalism

Good Luck to the Class of 2021!

Technical Standards for Clinical Education

The following technical standards identify the skills and abilities needed in the profession of radiologic technology. The student radiographer must:

1. Communicate, both verbally and in writing, at a professional level
 - a. Demonstrate English language proficiency with sufficient skill to communicate.
 - b. Provide clear and audible directions to patients face-to-face and from the radiography control booth area, which may be 20 feet away from the patient.
 - c. Read and interpret the physician's orders and corresponding paperwork.
2. Demonstrate sufficient locomotor skills to move from room to room and maneuver in small spaces.
 - a. Be able to push, pull, and lift 50 pounds.
 - b. Push and adjust a stretcher and/or wheelchair without injury to self, patient, or others.

- c. Lift and transfer patients from a wheelchair or stretcher to an x-ray table or to a patient's bedside.
 - d. Move and adjust radiographic equipment, accessories, and ancillary devices as needed for patient imaging.
 - e. Operate mobile x-ray equipment in the operating room, emergency room, or at patient's bedside.
 - f. Wear a lead apron weighing approximately eight to fifteen pounds for extended periods of time.
 - g. Assist in the care of patients without obstructing the positioning of necessary equipment or other health care workers vital to the treatment of the patient.
3. Possess sufficient gross and fine motor abilities to provide safe and effective patient care.
- a. Must be able to reach overhead to manually move the x-ray tube and position the tube at various angles at heights up to 6 feet.
 - b. Manipulate dials, buttons, levers, switches, and keyboard of various sizes as needed to operate x-ray equipment and ancillary devices.
 - c. Properly palpate anatomical landmarks as needed to position the patient for a radiographic procedure.
 - d. Physically place patients in proper positions for radiographic procedures according to established standards.
 - e. Must be able to align the x-ray tube, patient, and image receptor in a timely manner for all radiographic procedures.
 - f. Handle and manipulate radiographic lead markers as required for each radiographic procedure.
 - g. Accurately draw up sterile contrast media and other solutions without contaminating the syringe and/or needle.
 - h. Ability to apply and wear protective gloves for the purpose of universal or standard precautions.
 - i. Properly put image receptors in Bucky tray and spot film devices.
 - j. Properly manipulate all locks on the x-ray tube and Bucky tray.
 - k. Physically be able to administer emergency care including performing CPR.
 - l. Physical ability to work standing on your feet 90% of the time.
 - m. Ability to use computers and computer systems to enter and process data.
 - n. Possess good eye/hand/foot coordination in order to operate radiographic equipment properly and in a timely manner.
 - o. Assist patient in dressing and undressing for a radiographic procedure.
4. Possess auditory abilities sufficient to monitor and assess patient needs, and to provide a safe environment for self, patient, and others.
- a. Hear equipment alarms, monitor alarms, emergency signals, and cries for help.
 - b. Respond to codes over hospital intercoms (i.e. fire, child abduction, cardiac arrest...)
 - c. Ability to distinguish sounds and voices over background noise such as patient monitoring equipment, intercom, and exposure signal.
 - d. Monitor equipment operation or dysfunction which may be indicated by low-sounding bells or buzzers.
 - e. Hear patient talk in a normal tone from a distance of 20 feet.
5. Possess the visual acuity that is necessary to provide optimal patient care while operating radiographic equipment.

- a. Read the text and numbers on the radiographic control panel.
 - b. Recognize symbols within the healthcare facility and on radiographic equipment.
 - c. Possess full peripheral vision (e.g., side vision) to ensure patient safety.
 - d. Be able to observe and assess the condition of a patient from a distance of 20 feet.
 - e. Be able to determine subtle differences in gradual changes in blacks, grays, and whites for purposes of assessing the technical quality of a radiograph.
 - f. Perform necessary radiographic procedures in rooms that require dim lighting (i.e., fluoroscopy or darkrooms).
6. Think critically and perform and follow protocols for a wide range of procedures.
- a. Identify cause-effect relationships in clinical situations.
 - b. Evaluate radiographs to ascertain that they contain proper identification and are of diagnostic value.
 - c. Select exposure factors and accessory devices for all radiographic procedures with consideration of patient size, age, and extent of disease.
 - d. Adjust radiographic equipment and ancillary devices and modify patient positioning as needed to obtain diagnostic radiographs.
 - e. Assess the patient's condition and needs.
 - f. Initiate proper emergency care protocols, including CPR.
 - g. Utilize hospital/medical imaging department information systems to process and archive images.
 - h. Ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules.
7. Possess interpersonal behavioral and social skills to interact with a variety of individuals from a variety of social, emotional, cultural, and intellectual backgrounds.
- a. Establish a positive rapport with patients, families, and colleagues.
 - b. Function rationally and quickly in emergency situations.
 - c. Possess the ability to deal effectively with stress.

Physical/Medical Restrictions

If during a student's training, the student becomes incapable of maintaining the program's technical and physical standards due to injury or limitations/restrictions placed on the student by a qualified medical professional, the student will be excused from their clinical site training for no more than one-quarter of the total clinical hours for that semester. All clinical time missed must be made up by the end of the semester unless other arrangements are made with the program's clinical coordinator. Students on medical restrictions will be allowed to re-enter their clinical training only with proper documentation from their health-care provider. Students who miss more than one-quarter of their clinical site training due to injury or medically imposed restrictions will receive an Incomplete (I) for the clinical course and will be allowed to re-enter clinical training the following year if space at a clinical site is available.

Clinical Education Centers (CEC)

There are many factors involved in providing quality clinical education for a radiography program to be successful. One of these factors is the effectiveness of the clinical education center (CEC). These institutions offer the facilities and staff to accomplish course objectives set by the program and provide supervised competency-based radiography training. Hospitals, imaging centers, and health care clinics all contribute to the professional development of the radiography student.

The Washtenaw Community College Radiography Program is affiliated with eleven clinical education centers. As stated above, while enrolled in the program, students will be assigned to at least two of these institutions. By allowing the student to train in different health care facilities, we hope to enhance the learning experience by exposing the student to a variety of medical modalities, radiographic procedures, and expertise of the departmental staff. Students must bear in mind that they are guests (not employees) of the CECs and have no protection under that center's human resources policies, yet they will be held to the same standards of conduct as employees. Students can be removed or asked to leave their clinical placement for any infraction of that facility's rules or for any behavior deemed inappropriate by the facility. If a student is employed in some capacity by the CEC they are assigned to, the student cannot count work hours as clinical hours, and nothing they do during their work hours (competencies, simulations, etc.) can be counted toward their clinical education.

The following is a list of clinical affiliates:

1. Beaumont-Oakwood Hospital--Wayne, 33155 Annapolis, Wayne
2. Beaumont-Oakwood Hospital—Dearborn, 18101 Oakwood Blvd, Dearborn
3. ProMedica Regional Medical Center, Monroe, 740 N. Macomb, Monroe
4. St. Joseph Mercy Hospital, 5301 E. Huron River Dr., Ypsilanti
5. St. Joseph Mercy Hospital—Livingston, 620 Byron, Howell
6. St. Mary Mercy Hospital, 36475 West Five Mile Rd., Livonia
7. St. Joseph Mercy Hospital—Brighton, 7575 Grand River Road, Brighton
8. St. Joseph Mercy Hospital—Canton, 1600 S. Canton Center Road, Canton
9. University of Michigan Health Service, 207 Fletcher St., Ann Arbor
10. Veterans Administration Hospital, 2215 Fuller Rd., Ann Arbor
11. Veterans Administration Hospital, 4646 John R. Ave., Detroit
12. Henry Ford Wyandotte Hospital, 2333 Biddle, Wyandotte

Clinical Education Center Orientation

Each student is required to attend a CEC orientation specific to that student's clinical education site. Although the radiography program will supply students with basic guidelines concerning Universal or Standard Precautions (see Communicable Disease Prevention: Universal Precautions) and HIPAA (see Appendix A), the student's CEC will provide more specific and detailed instructions concerning that institution's response to hazards, emergency preparedness, and medical emergencies, and the institution's specific policies addressing HIPAA and Standard Precautions. Clinical education sites treat students as employees in this regard in order to be in regulatory compliance; therefore, attendance at clinical site orientations is mandatory.

Clinical Education Placement Policy

Students enrolled in clinical courses will be assigned to two clinical education centers affiliated with the radiography program, three semesters at each clinical education center (CEC). After the clinical coordinator has received all required medical, insurance, and background check information, students will be assigned to their first CEC in the fall semester. Upon completing all

academic requirements for the first year of a clinical study, students will be assigned to their second CEC at the beginning of the following fall semester.

CEC placement of students is the responsibility of the Clinical Coordinator and every effort is made to make the clinical site assignment fair to all students. Placement is based on where students live, the number of clinical seats available, what will give the student the most rounded clinical education, and making the associated transportation issues to and from CECs as fair and equitable as possible. Students should expect to travel between 40 and 50 miles one way to their CEC.

Clinical Education Schedule

The number of clinical days per week will depend on the semester and will be stated for each semester on the clinical course's syllabus. With the exception of off-shift rotations, a student's clinical experience will take place during the day shift and will be for an entire eight-hour day. The contact hours (clinical and didactic) must not exceed 40 hours per week. Students may not attend clinical for more than ten hours in any one clinical day, and may only do so for the purposes of making up clinical time already missed and with the permission of and prior scheduling with their clinical instructor.

Clinical Interdepartmental Scheduling

While in the CEC, students will be assigned to a variety of general diagnostic areas within the radiology department. The interdepartmental clinical schedule is under the direct supervision of the clinical instructor. The CEC will develop a rotation schedule, which will allow the student the appropriate time to fulfill course objectives for the semester and encourage participation in general diagnostic areas to complement professional development and clinical competency. Rotations typically last one to two weeks and students will rotate more than once through an area in any given semester.

Off-Shift Rotations

Radiographers work a variety of shifts in a 24-hour period, every day of the week. Each shift can require different responsibilities and skills to be efficient in one's position. As a student radiographer, it is to your advantage to experience these variations and gain the skills needed to function on these shifts. To broaden the educational experience in the clinical setting, students will be required to receive a minimum of **80 hours** on an off-shift rotation. These shifts will include afternoons, midnights, and weekends; however, an off-shift rotation can begin as early as 12 noon if a clinical site deems it necessary. First-year students may begin to fulfill this requirement in their third semester of clinical training (RAD 150). Due to the orientation period needed at a new facility, second-year students may begin this rotation in their sixth semester of clinical training (RAD 225). All 80 hours do not have to come from one particular shift or in one semester - a combination of shifts and semesters will be allowed.

Performance Objectives – Specific objectives have been developed regarding the student's performance during their off-shift experience. Students will be evaluated according to these objectives and expected to perform in a proficient manner based on requirements established by their clinical instructor. During their off-shift rotation, students will be required to achieve four (4) competencies within the 80 hours required. The main focus of these competencies should be pediatrics, trauma, portables, and surgery.

The clinical instructor will manage off-shift rotation schedules. Prior to beginning an off-shift rotation, the student must display a competency level approved by the clinical supervisor. Student radiographers will report to their shift according to the department's time schedule. No variations will be allowed unless approved by the clinical instructor and clinical coordinator. Students will be supervised by the appropriate coordinator and/or assigned technologist.

Diagnostic Radiology vs. Specialty Imaging

The purpose of clinical education is to allow the student vocational (hands-on) experience needed to succeed in his/her chosen profession. The field of radiology is an aggregate of imaging modalities which provides diagnostic imaging for the purpose of medical diagnosis and treatment. It is the responsibility of the program and medical faculty to offer the relevant clinical experience to produce professionally qualified and skilled radiographers. It is also the responsibility of the student radiographer to complete course objectives for each clinical semester and to gain competency and skill by repeated execution of radiographic procedures. For this to occur, students will be assigned to areas that accommodate training in diagnostic radiography for the majority of their clinical experience. **With the exception of off-shift rotations, students' clinical experience will take place during the day shift of their CEC and will be for an entire eight-hour day. Students may not attend clinical for more than ten hours in any one clinical day, and may only do so for the purposes of making up clinical time already missed and with the permission of and prior scheduling with their clinical instructor.**

Specialty rotations will be allowed in the final semester of clinical training (RAD 240). For a student to be placed in this rotation, he/she must display entry-level abilities of a fully trained radiologic technologist and cannot be on clinical or academic probation. The following are considered specialty rotations: Angiography, Computed Tomography, Nuclear Medicine, Cardiac Catheterization, Magnetic Resonance Imaging, Ultrasound, Mammography, Mobile Radiography, and Radiation Therapy. With regard to mammography, the radiography program will make every effort to place a male student in a mammography clinical rotation if requested. However, male students are advised that placement in a mammography rotation is not guaranteed and, in fact, is very unlikely to happen because the radiography program cannot override clinical site policies that restrict mammography rotations to female students due to liability concerns and patient interests.

Student Clinical File

All health occupation students, including radiography students, enrolled in clinical courses are required to provide proof of their CPR certification, background check, medical history, present physical condition, and health insurance. Students in the Radiography Program will purchase a background check through the Castle Branch (<https://www.castlebranch.com>). Before students come to their mandatory program orientation session in late March of the year they are admitted, they must have completed their CastleBranch background check and submit the following documents to the program secretary:

- Medical History form (completed and signed by the student and their healthcare professional)
- Evidence of immunity for Measles, Mumps, and Rubella (MMR), Varicella (Chicken Pox), and Hepatitis B
- Evidence of a negative TB status using a two-step process
- Current vaccine record

- Tdap vaccine or Td booster if Tdap greater than 10 years

Before August 1st of the year, they are admitted, students must submit the following to the program secretary:

- CPR Certification from American Heart Association (equivalent to healthcare provider/professional)
- Evidence of Health Insurance

Students who do not submit the required documentation by the specified dates will forfeit their clinical placement unless other arrangements have been made with the program's clinical coordinator. Other important documents which will be kept by the program's clinical coordinator in the student's file are:

- Program Handbook signature sheet
- Clinical Supervision Program Policies signature sheet
- Radiography Student Magnetic Resonance Imaging (MRI) Safety Policy
- Radiation Safety for Clinical Training signature sheet
- ASRT Membership (beginning of the second year)

Students will be given instructions and guidance for signing up for the CastleBranch background check prior to their start date.

All students will be required to receive another two-step TB test and a CPR re-certification and submit these to the program secretary if these expire at any time during the semester. In addition, the sponsoring CEC may require other information such as the student's immunization records and TB and/or CPR certification status. It is the student's responsibility to provide their CEC with these documents.

IMPORTANT--Your clinical sites and the college will only accept certifications and renewals from the American Heart Association. Although there are several if not dozens of on-line CPR renewal sites that look cheap and convenient, DON'T WASTE YOUR MONEY! The hospitals cannot accept these and neither can our program because you are not being checked off on a manikin.

Note: *Students currently in the program with incomplete files due to the expiration of documents (e.g., CPR, TB) or failure to secure ASRT membership before the beginning of their second year will be ineligible for clinical and will not be allowed to participate in the hospital setting. The days that are missed will be considered unexcused absences (refer to attendance policy) and will result in a substantial grade reduction or failure of the clinical course. It is the student's responsibility to notify the clinical coordinator or clinical instructor of changes that need to be noted in his/her file.*

Clinical Instructor

While at the clinical site, the student will be under the supervision and guidance of the Clinical Instructor(s). As an on-site representative of the radiography program, the clinical instructor establishes the means for students to accomplish course objectives in the radiology department and enforces regulations according to program policy.

Responsibilities of the Clinical Instructor to the Student:

1. Provide opportunities for radiography students to observe and participate in clinical education.
2. Interpret the policies and regulations of the affiliate institutions to the radiography student.
3. Plan learning activities for the radiography student, which draws upon and enriches college course curriculum.
4. Assign student radiographers to the appropriate radiographic areas. These assignments should be based on the student's abilities and the time he/she has been in the program.
5. Confer regularly with departmental staff on the student's clinical performance.
6. Provide feedback to program faculty regarding the student's clinical performance and evaluation.
7. Counsel students when necessary regarding clinical performance and completing course objectives.
8. Coordinate the evaluation on the student's clinical performance by way of performance evaluations.
9. Maintain confidential folders on students with attendance information and clinical performance evaluation forms.

Responsibilities of the Student to the Clinical Instructor:

1. Do what's asked of you by your clinical instructor to the best of your ability without grumbling—give an honest effort.
2. Respect your clinical instructor's authority and the time they take to work with you—don't be insubordinate and do use criticism constructively. Insubordinate behavior toward your clinical instructor is grounds for failure of your clinical course and permanent suspension from the radiography program.
3. Communication openly—ask about things before they become a problem and use proper lines of communication.
4. Own up to your mistakes/errors and learn from them—that's how you learn! Lying leads to huge negative consequences, most of them for you!

Clinical Supervision

Students in the WCC Radiography Program will be supervised while taking images at their clinical site to ensure that you are not putting yourself and your patients in harm's way.

Direct Supervision

While in the radiology department of your clinical site, a student taking medical images will be supervised at all times. According to the regulations of the Joint Review Committee on Education of Radiologic Technologists (JRCERT), no more than one student shall be assigned to a qualified radiographer (ARRT). *Direct supervision is defined as the radiographer is in the presence of and watching the student during all parts of the procedure that the student is performing.* All medical imaging procedures will be performed under the direct supervision of a qualified radiographer until

the student achieves competency. To ensure proper supervision, students will be assigned to a qualified radiographer in the appropriate scheduled area.

Indirect Supervision

After a student has successfully demonstrated competency of a specific medical imaging procedure, the radiography student can receive indirect supervision from a qualified radiographer. *Indirect supervision is defined as supervision provided by a qualified radiographer immediately available to assist a student regardless of competency level.* The radiographer should be adjacent to the room or location where a radiographic procedure is being performed. Immediately available does not mean by phone from another floor of the hospital.

Repeated Radiography Examinations

If it is necessary for a student to repeat ANY unsatisfactory radiographs, the student will perform ALL repeated radiographs under the direct supervision of a qualified staff radiographer.

Because supervision is an issue of concern for the safety of our patient and the safe practice of our profession, violating it constitutes a Group I infraction and suspension from the Radiography Program. Therefore, advocate for yourself and make sure that you are being properly supervised. If you are not, please go to your clinical instructor.

Evaluation of Clinical Performance

Evaluation of student performance at the clinical site is as important as didactic assessment within the classroom. The evaluation process in the clinical setting provides the student with the appropriate feedback to interpret his/her level of professional development. Students receive this data in the form of written evaluation (Radiographic Procedure Evaluation and Clinical Performance Evaluation) and daily interactions with staff radiographers and clinical instructor(s). All clinical evaluation forms must be officially signed by the student, evaluator, and clinical instructor in order to be valid. Students will be evaluated on his/her ability to demonstrate professional development in three areas:

- 1. Cognitive Knowledge** - Acquired knowledge and a conceptual understanding.
- 2. Psychomotor Skills** - The ability to perform specific competencies.
- 3. Affective Behavior** - Judgment, values, and work ethic while at the clinical site.

These three components provide the appropriate feedback so students have the opportunity to advance based on their abilities, knowledge, and motivation. From this data, clinical staff and program faculty can evaluate the student's performance based on the completion of procedure evaluations and course objectives. Once the level of clinical competency has been determined, the student is counseled on his/her performance in the clinical setting and graded accordingly.

Trajecsys

All Radiographic Procedure Evaluation (Competencies) and Clinical Performance Evaluation will be administered through the Trajecsys tracking system. Therefore, all Radiography students must purchase access to the online clinical documentation system Trajecsys. After purchase, the student

must register @ www.trajecsys.com and will be activated at that time. This system is a requirement for your Clinical Education documentation. Students have access to this system for the duration of the program.

The policies governing the use of the Trajecsys online clinical documentation system are:

1. Some clinical affiliates will allow students to access www.trajecsys.com in order to enter the times that they enter and exit the clinical site (time card).
2. Students are only allowed to enter www.trajecsys.com at these sites. They are NOT allowed to use the Internet for any other purpose.
3. Students who are assigned to a clinical affiliate that does not allow them to access the Internet must enter their entry and exit times from another computer by the end of each day. The Clinical Instructor at each site will be approving the students' time cards online on a weekly basis.
4. Students who do not enter their clinical time daily will be counted as tardy or absent.
5. Disciplinary actions may be applied if a student does not abide by this policy.

Students will be evaluated in five areas:

1. Self-Study Assignments/Research
2. Radiographic Procedure Evaluation (Competencies)
3. Clinical Performance Evaluation
4. Radiographic Positioning Simulation Exercise
5. Radiographic Maintenance Record (Exam Logs)

Self-Study Assignments/Research

While enrolled in the radiography program, students will be required to write a series of research papers and/or related assignments on subject material associated with the field of radiography and to being a medical professional. These assignments will give the student the opportunity to gain a better understanding of the chosen topic and review didactic material relevant to their learning experience. In addition, because clear written communication is such an essential part of medical professions, these assignments will give students the opportunity to practice and improve their writing skills.

Since the research papers will be based on a scientific theme, the appropriate style and citation format must be present to receive full credit. Students unfamiliar to this writing style can review manuals dedicated to this subject. These texts can be found in local bookstores (e.g., bookstore located on campus) and libraries (Campus Learning Resource Center). Requirements will be given before each assignment.

Written and research self-study assignments will determine 10-20% of the final evaluation and those submitted after the due date will receive a zero (0) grade. All self-study assignments must be submitted or the student will receive an incomplete (I) grade for the clinical course until the

assignment is submitted. If the assignment is not submitted by the end of the following semester, then the incomplete grade from the prior clinical course will be changed to a failing grade (F).

Radiographic Procedure Evaluation (Competencies)

Radiographic Procedure Evaluations (competencies) are an important instrument used to assess the student's level of professional development. This evaluation process demonstrates the student's knowledge, skill, and competency level for a particular radiographic procedure. Students are required to prove their level of competency by performing a variety of radiographic examinations in a professional manner. Successful completion of clinical training will be dependent on the student's performance in this area.

Student radiographers will be required to complete fifty-one (52) competency evaluations within the two years of a clinical study. The number and type of procedure per semester will be stated in the course objectives for that particular term. The actual number of competencies for each clinical course is listed below. Students are limited to earning no more than the required number of competencies per semester unless authorized by the radiography program clinical coordinator.

Radiography Course	Required Number of Competencies
RAD 110	3
RAD 120	7
RAD 150	12
RAD 217	10
RAD 225	10
RAD 240	10

Requirements for Competency Evaluation

The following must be satisfied before a competency evaluation is performed:

1. Upon satisfactory completion of didactic course work, laboratory practice, and/or clinical practice, the student will be eligible to perform a competency evaluation. **Students must receive didactic and clinical instruction on how to perform a procedure before a competency on that procedure can be earned.**
2. Before the student can be evaluated for competency, he/she must **solo** the procedure a minimum of five times (review definition of solo in the glossary) under the direct supervision of a qualified radiographer. The exception to this requirement is surgical procedures or examination which are not routinely performed in the department - this will be determined by the clinical instructor and/or supervising radiographer. Any combination of five solos and assists may be used when mastering these procedures and solos of a procedure can be performed before the procedure is covered in didactic instruction.

Note: Your Clinical Instructor and the radiographers you are working with will determine when you will be allowed to comp on a procedure, whether it is after 5 or 50 solos—they have the final say as to your readiness to attempt a competency. Do not question their judgment or authority concerning this.

Criteria for Competency Evaluation

Upon satisfactory completion of didactic course work, laboratory practice, and clinical education, the student is eligible to perform a competency evaluation. The evaluator will utilize the following criteria to assess the student's competency.

GENERAL

Interpretation of Requisition

The student was able to:

1. Identify the procedure and clinical indications on the requisition.
2. Identify the patient's name, age, and mode of travel.

Facilities Readiness

1. Have a radiographic table and other equipment clean and ready.
2. Have room stocked with linens, emesis basins, syringes, etc.
3. Have equipment turned on and cassettes/IPs ready.

Equipment Use

The student was able to:

1. Prepare and safely operate standard radiographic and fluoroscopic equipment.
2. Prepare and safely operate mobile x-ray equipment.
3. Prepare and safely operate tomographic equipment or any equipment necessary to perform the examination being evaluated.

PERFORMANCE EVALUATION

Patient Care and Handling

The student was able to:

1. Identification of patient by three (3) way identification.
 - a) Ask the patient his/her name.
 - b) State the patient's name.
 - c) Check the name on the wristband.
2. Assist the patient, whatever his mode of travel, to and from the x-ray table.
3. Have the patient properly gowned and keep covered for privacy.
4. Explain examination to the patient in a calm manner so he/she understands.
5. Give proper moving and breathing instructions.
6. Follow correct procedures for isolation patient.

The student was able to:

1. Assist the patient on the table to required positions.
2. Place the imaging media and the body part in the correct relationship.
3. Angulate and center the central ray.

Correct Accessory Selection and Use

The student was able to:

1. Select the proper imaging media (film/cassette or IP), grid, etc.
2. Use immobilization devices as needed - sandbags, sponges, etc.
3. Fill syringes with correct contrast media or other solutions using aseptic technique.
4. Prepare barium contrast medium according to departmental protocol.

Correct Technical Factor Selection

The student was able to:

1. Use the technique chart to select a technique or properly selected AEC to acquire optimal radiographic quality.
2. Adjust exposure factors for body habits, pathology, and motion.
3. Adapt exposure factors for changes in SID, grid ratio, collimation, and the clinical site's exposure indices for that exam.

General Radiation Protection

The student was able to:

1. Cone or collimate to the part.
2. Use gonadal shields where applicable.
3. Wear dosimeters.
4. Wear lead apron and gloves as appropriate.
5. Keep the door to the radiographic room closed.
6. Request that any person in the vicinity of the patient moves away before making an exposure.
7. Acquire information regarding the possibility of pregnancy in accordance with departmental policy.

IMAGE EVALUATION

Correct Centering and Alignment

The radiograph demonstrates:

1. Correct transverse and longitudinal centering of the CR to the part and the part to the imaging media.
2. Correct tube-part-image receptor alignment.
3. Correct SID and CR angulation.

Correct Density/Contrast or Window/Level, and Definition

The radiograph demonstrates:

1. Proper density/contrast or window/level.
2. That factors were adjusted for pathology or motion.
3. Correct cassette or IP, grid, etc. were used.
4. No motion, grid lines, or artifacts.

Correct Position and Rotation of Part

The radiograph demonstrates:

1. The body part in proper position and rotation.

Correct Patient Identification and Markers

The radiograph demonstrates:

1. Right and Left markers properly placed.
2. Time and/or position markers correctly placed.
3. Patient information, name, number, etc. clearly visible.
4. Student markers clearly visible.

Evidence of Radiation Protection

The radiograph demonstrates:

1. Cone or collimation marks visible.
2. Gonadal shield visible (where applicable).
3. NO repeats at the supervisor's discretion.
4. Exposure indices are within the institution's range of exposure for that exam or the kVp and mAs selected are within department norms.

Image Critique

The student was able to:

1. Recognize whether or not they have acquired a quality image.
2. Describe to the evaluator the difference between poor and good image quality for the exam.
3. Identify to the evaluator the pertinent anatomy shown.

Radiographic Procedure Evaluation Form

Student competencies will be assessed by using the Radiographic Procedure Evaluation Form available on Trajecsys. When the student is given the opportunity to perform a clinical competency, the student will notify the supervising radiographer **before** attempting the procedure. The radiographer will then monitor the procedure and evaluate the student according to competency evaluation criteria.

On the form, there are marks (*) next to specific tasks that must be performed to successfully complete the evaluation. If the student fails to execute one of these skills, the evaluation process is

terminated and the student receives an unsatisfactory competency evaluation. Depending on the severity of the deleted task, the student may be allowed to finish the procedure. Once the procedure is complete, the student is advised and given remedial instruction before attempting future competencies. **All Radiographic Procedure Evaluation forms, pass or fail, must be completed on Trajecsys and present in the student's file at the end of the semester.**

Review of Procedure Evaluation Form

Once the evaluation process has ended, the radiographer will review the student's proficiency in performing the examination. **The minimum acceptance level of competence in performing a radiographic procedure evaluation is 95%.** If this level has been achieved, the student will sign-off on the procedure in Trajecsys and indicate the name of the supervising technologist. Trajecsys forwards this competency to the student's clinical instructor at the CEC who will verify the competency with the supervising technologist and also sign-off on the competency. Trajecsys then sends the competency to the Clinical Coordinator for her to verify, sign-off, and record the competency in the student's record. Students that receive a score at or above this level will be required to continue performing that procedure to attain additional experience and professional efficiency. Students who receive a score lower than the acceptance level will be required to repeat the competency evaluation following remedial instruction.

Note: All Procedure Evaluation Forms must be signed by the student, evaluator, and clinical instructor. Forms which are not signed will be considered incomplete and will not be accepted for the grading process. In addition, students must submit documentation (i.e., Exam Logs) that they have soloed an exam at least five times for the competency to be recorded by the Clinical Coordinator. Until all requirements are satisfied, the student will receive an incomplete grade for the semester.

Late Procedure Evaluations (Competencies)

All Radiographic Procedure Evaluations (competencies) must be completed by the last reporting day of the clinical education course that the student is enrolled in. After that date, **no** procedure evaluations will be accepted and the student's grade will be based on competencies completed at that time. Only under extreme circumstances will a student be allowed to complete his/her competency requirements beyond the last reporting day of the term. This will be determined by the program's clinical coordinator and he/she will assign the appropriate percentage based on the student's situation.

Procedure Evaluation Maintenance

Although a student may have successfully completed a clinical competency evaluation early in the program, continued performance of that procedure is required for the student to develop into a skilled radiographer. Once competency is received, the student is obligated to perform that procedure on every possible occasion. Failure to do so is a violation of student responsibilities and contradicts the educational process. A continued display of this behavior will be noted as a clinical deficiency on the student's Performance Evaluation and if continued may result in remedial

instruction and reevaluation of the procedure in question, resulting in the competency for the procedure in question to be withdrawn.

Students will only gain confidence and progress in their training by observing, assisting, and soloing as many procedures as possible.

Simulated Competency Evaluation

In the event a required procedure cannot be obtained during the semester because it is not commonly seen at the student's clinical site, the clinical instructor and clinical coordinator may choose to grade the student by performing a simulated procedure. The simulation evaluation must be scheduled with the Clinical Instructor. The grade attained from the simulation will be applied toward the semester evaluation but **will not** appear on the computer printout as a MASTER (the exam will be listed as "S" for simulation instead of "P" for the patient). The actual performance of the procedure must be executed to receive competency status. Procedures should be performed on patients; however, up to eight mandatory procedures may be simulated if demonstration on patients is not feasible.

A simulation can only be scheduled after the student has performed the procedure five times solo and all means of attaining an actual patient have been exhausted. Simulations will be done at the end of the RAD 240 semester only. In addition, *a simulated competency evaluation does not count toward the competency total needed for the semester* (e.g., if the student performs nine competencies on actual patients and one simulated competency on a phantom, the student still has only nine competencies for the semester and will need to perform one more on an actual patient).

Radiographic Procedure Evaluations (competencies) will determine 50-60% of the final evaluation. Unless approved by the Clinical Coordinator, competencies submitted after the last reporting day of the semester will not be used to calculate this portion of the final evaluation, and the clinical course grade will be reduced accordingly. The student will receive an incomplete (I) grade for the semester until the required number of competencies for that semester are made up. All deficient competencies from the prior clinical course must be completed by the end of the following semester; if not, then the incomplete grade from the prior clinical course will be changed to a failing grade (F).

Radiographic Procedure Categories & Requirements

Students are required to successfully complete 52 competency evaluations in their two years of clinical training. Prior to beginning an academic semester, students will be informed of specific radiographic procedures that will be required for that term. The requirements listed are the minimum core clinical competencies necessary to establish eligibility for participation in the ARRT Radiography Examination.

Students must demonstrate competency in all 37 mandatory Radiological Procedures. At least 29 of the 37 mandatory Radiological Procedure competencies must be demonstrated on patients (no phantoms or simulations). Students must demonstrate competency in 15 of the 34 elective Radiological Procedures.

Electives should be demonstrated on patients whenever possible but may be simulated if the demonstration on a patient is not feasible. In addition to the Radiological Procedure competencies, the six General Patient Care competencies are Mandatory. These competencies may be simulated.

Imaging Procedure	Mandatory or Elective	Date Completed	Patient or Simulated	Competence Verified By
Chest and Thorax				
1. Chest Routine	M			
2. Chest AP (Wheelchair or	M			
3. Ribs	M			
4. Chest Lateral Decubitus	E			
5. Sternum	E			
6. Upper Airway (Soft-Tissue	E			
Upper Extremity				
7. Thumb or Finger	M			
8. Hand	M			
9. Wrist	M			
10. Forearm	M			
11. Elbow	M			
12. Humerus	M			
13. Shoulder	M			
14. Trauma: Shoulder (Scapular Y, Transthoracic	M			
15. Clavicle	M			
16. Scapula	E			
17. AC Joints	E			
18. Trauma: Upper Extremity (Nonshoulder)*	M			

Imaging Procedure	Mandatory or Elective	Date Completed	Patient or Simulated	Competence Verified By
Lower Extremity				
19. Toes	E			
20. Foot	M			
21. Ankle	M			
22. Knee	M			
23. Tibia-Fibula	M			
24. Femur	M			
25. Trauma: Lower Extremity*	M			
26. Patella	E			

27. Calcaneus (Os Calcis)	E			
Head – Candidates must select at least one elective procedure from this section.				
28. Skull	E			
29. Paranasal Sinuses	E			
30. Facial Bones	E			
31. Orbits	E			
32. Zygomatic Arches	E			
33. Nasal Bones	E			
34. Mandible	E			
35. Temporomandibular Joints	E			
Spine and Pelvis				
36. Cervical Spine	M			
37. Thoracic Spine	M			
38. Lumbar Spine	M			
39. Cross-Table Lateral Spine	M			
40. Pelvis	M			
41. Hip	M			
42. Cross Table Lateral Hip	M			
43. Sacrum and/or Coccyx	E			
44. Scoliosis Series	E			
45. Sacroiliac Joints	E			
Abdomen				
46. Abdomen Supine (KUB)	M			
47. Abdomen Upright	M			
48. Abdomen Decubitus	E			
49. Intravenous Urography	E			

Imaging Procedure	Mandatory or Elective	Date Completed	Patient or Simulated	Competence Verified By
Fluoroscopy Studies – Candidates must select either UGI or Contrast Enema plus one other elective procedure from this section.				
50. Upper GI Series (Single or Double Contrast)	E			
51. Contrast Enema (Single or Double Contrast)	E			
52. Small Bowel Series	E			

53. Esophagus	E			
54.	E			
55. ERCP	E			
56. Myelography	E			
57. Arthrography	E			
58. Hysterosalpingogram	E			
Surgical Studies				
59. C-Arm Procedure (Requiring moving to obtain multiple projections).	M			
60. Surgical C-Arm Procedure (Requiring moving around a sterile field).	M			
Mobile Studies				
61. Chest	M			
62. Abdomen	M			
63. Orthopedic	M			
Pediatrics (age 6 or younger)				
64. Chest Routine	M			
65. Upper Extremity	E			
66. Lower Extremity	E			
67. Abdomen	E			
68. Mobile Study	E			
Geriatric Patient (Impaired due to aging).				
69. Chest Routine	M			
70. Upper Extremity	M			
71. Lower Extremity	M			

* Trauma is considered a serious injury or shock to the body. Modifications may include variations in positioning, minimal movement of the body part, etc.

	General Patient Care	Date Completed	Competence Verified By
1.	CPR		
2.	Vital signs (blood pressure, pulse, respiration, temperature, pulse oximetry)		
3.	Sterile and medical aseptic technique		
4.	Venipuncture		
5.	Transfer of patient		
6.	Care of patient medical equipment (e.g., oxygen tank, IV tubing)		

Verification Section (Note: The Verification Section will appear on the examination applica

The applicant has demonstrated the competency requirements as identified in *the Radiography Clinical Competency Requirements* document.

Program Director: _____ Date: _____

Clinical Performance Evaluation

Clinical performance evaluations are used to assess the competency level and professional development of the student radiographer. As the student progresses in their training, certain levels of proficiency will be expected by clinical staff and program faculty. By evaluating the student in these areas we are able to ascertain specific competencies and behaviors which should be encouraged and those which are considered limiting to professional development. Students should use this feedback as a means to establish goals for achieving a higher level of clinical efficiency. At mid-semester and the end of the semester, students will be evaluated by their clinical instructor based on their clinical instructor’s observations and the input of qualified radiographers that the student has been assigned to work with. At such time the clinical instructor will evaluate the student based on the time spent in the area or department [Appendix B]. These evaluations will be completed on and shared with students via Trajecsys. The student will have an opportunity to make copies of their evaluation and discuss them with their clinical instructor and the Clinical Coordinator. Students must review and sign-off on their evaluations within one week of submission; unless this requirement is satisfied, the student will receive an incomplete grade for the semester. Competence in clinical performance will determine 20% - 30% of the final evaluation. Students receiving an “Inadequate Performance” in any area of the Clinical Performance Evaluation will be placed on Clinical Probation and must submit an action plan to the program Clinical Coordinator to correct the performance. Students who receive an 88% or less on a final Clinical Performance Evaluation will be placed on Clinical Probation. See “Program and Clinical Probation” for further details.

Criteria for Clinical Performance Evaluations

The following is a combination of Affective and Psychomotor Behaviors. The student must be evaluated according to the length of time in the program and their ability to display these behaviors in the clinical sitting.

Psychomotor Behaviors

Patient Communication

1. Identification of patient by three (3) way identification.
 - a) Ask the patient his/her name.
 - b) State the patient's name.
 - c) Check the name on the wristband.
2. Taking adequate histories.
3. Explain the procedure to the patient.
4. Gives clear breathing instructions.
5. Speaks clearly and in a pleasant voice.

Concern For Patient Comfort and Welfare

1. Provides for the patient's physical comfort.
2. Provides for the safety of the patient.
3. Makes the patient mentally comfortable.

Care and Use Of Equipment

1. Exhibits caution in handling the equipment.
2. Demonstrates the ability to set up a control panel for radiography.
3. Demonstrates the ability to set up a control panel for fluoroscopy.
4. Uses equipment efficiently, effectively, and carefully.

Organization of Work

1. Room is properly prepared.
2. Evaluates the needs for the procedure.
3. Performs the procedure in orderly ways.

Quality of Work

1. Provides the patient with prompt and quality care.
2. Provides quality results.

Ability to Work

1. Uses good judgment.
2. Follows directions satisfactorily.
3. Completes directions satisfactorily.

Quality of Positioning

1. Strives for positioning excellence.
2. Uses technique charts correctly.
3. Ability to improvise to achieve quality results.

Quality of Technique

1. Strives for technical excellence.
2. Uses technique charts or automatic exposure controls correctly.
3. Considers the physical characteristics of the patient when applying exposure factors.

Affective Behaviors

Appearance

1. A student in proper WCC uniform.
2. Uniform is neat and clean.
3. The student is well-groomed.

Attitude Toward Criticism

1. Accepts constructive criticism well.
2. Applies constructive criticism well.

Self Image

1. Confident
2. Sure of capabilities.

Self Evaluation

Periodically, students will be required to evaluate their performance in the clinical setting. These self-evaluations will allow the student to assess their achieved goals, professional development, and areas in which he/she requires additional instruction and/or repeated participation. Students should use these evaluations to establish future academic goals and the means to achieve them.

Self-Evaluations are for the student's personal use and will not be part of the grading process.

Radiographic Positioning Simulation Exercise

As a practitioner in the field of radiography, radiologic technologists are expected to possess knowledge in, but not limited to radiographic positioning, patient care, and radiographic equipment and operation. These simulation exercises will provide the radiography student the opportunity to display his/her competencies in these areas.

In collaboration with radiographic positioning courses RAD 112, RAD 123, RAD 125 and RAD 215 students will attend scheduled positioning labs in their clinical setting or on campus. These labs

will be structured to coincide with the material being taught in the appropriate positioning course. During the clinical lab session, the clinical instructor or clinical coordinator will demonstrate positioning for specific radiographic procedures outlined in the positioning lab schedule. Procedures demonstrated in these lab sessions will be based on the routines found in the procedure manual provided by the individual clinical site. Upon completion of the demonstration, each student will participate in positioning a fellow student or clinical staff member under the supervision of the instructor.

Simulation Positioning Post-Evaluations (“Simulation Exams”)

Simulation exams will be administered periodically to assess the student's ability to perform radiographic procedures in the clinical setting. During the evaluation process, the student will position a fellow classmate or clinical staff member in a designated radiography room. The student will be expected to perform the simulation as if he/she were involved in an actual radiographic procedure. No actual radiographs will be taken.

Students will be evaluated in the following areas:

Patient Care and Communication

1. Preparation of physical facilities.
2. Appropriate supplies present for the procedure.
3. Name and title are given to "patient".
4. Provides a brief explanation of the procedure.
5. Inquiry into maternal status.
6. Maintains "patient" modesty throughout the procedure.
7. Communicates to the patient in a professional manner.
8. Provides maximum radiation protection to "patient", self and others during the procedure.
9. Provides proper breathing instructions.

Equipment Operations

1. Selects the proper cassette size, type, film or CR/Direct Capture unit.
2. Selects appropriate FFD.
3. Manipulates tube correctly by utilizing the appropriate locks.
4. Set-up unit console with appropriate exposure factors and/or photo-time setting.
5. Utilizes technique chart or automatic exposure control properly where applicable.
6. Uses equipment in a professional manner.
7. Uses appropriate accessories for the procedure (filters, cones, etc.).

Quality of Positioning

1. Knowledge of radiographic procedures found in the clinical site procedure manual.
2. Directs central ray to the appropriate centering point.
3. Uses the correct tube angulation for appropriate procedures.
4. Collimates to IP or field size or anatomical structure
5. Marks film(s) with "R" or "L" markers towards the lateral aspect of the anatomy.
6. Alignment of the part to the center of the film.
7. Directs central ray to the center of film or bucky.

During the RAD 110 and RAD 120 clinical education courses, students must obtain a competency score of 80% or above to pass the simulation test. Those who do not achieve this score will be allowed to retest on failed areas of the simulation at the clinical coordinator's discretion; however, students who perform poorly throughout a simulation will not be allowed to retest. The highest score that can be achieved on a repeated simulation test is 90%. During the RAD 150 clinical education course, simulation exercises **are timed**, and students will receive **no points for those parts of the simulation not completed in the required time**, and students must achieve a 90% or above competency rating in the designated time to pass the evaluation process. **A student who does not demonstrate competency in the required areas of the simulation examination by scoring above the percentages stated above will receive a failing grade for the evaluation and will be placed on Clinical Probation.** The instructor will determine the degree of competency using the appropriate evaluation forms. Student competency in this area will determine 20% - 30% of the final evaluation.

Radiographic Maintenance Record (Exam Logs)

Each student must maintain a record of the variety and quantity of radiographic procedures performed during all Clinical Education assignments. This will be done with the Student Daily Exam Log sheet made available to students via Trajecsys. Students will begin using this system on their first day of clinical for the Fall semester of their first year and throughout the rest of their clinical training. When doing exams at their clinical sites, students will use this system to record the exams they do each day. The system will record the major study area, specific procedure, participation level, number of exams, repeats, time and date, the name of the supervising technologist, and the supervising technologist's sign-off. **The most important of all is the name of the supervising technologist who is assigned to/working with the student and their sign-off.** If the supervising technologist does not sign-off on a student's exam log, it is essentially stating to the program faculty that the student has been working while not being supervised! **Students must submit exam logs via Trajecsys weekly.** Each of these will be worth 10 points of the student's self-study grade per week. **If a student does not submit an Exam Log or submits them without a supervising technologist's sign-off, it will be treated by the program faculty as if that student has worked an entire week without being supervised. This is viewed as an "Unsafe practice of the profession" which would be a Group I violation of the Radiography Program rules and ground for dismissal from the program.**

At the end of the semester, students will total up how many exams they have done of each type and in what area, and whether it was observed, assisted, or soloed, and include these figures in the form of a progress report in three questions are answered:

1. How has the number and type of exams you have done during this semester changed over the semester or from the prior semester and what might be the possible reasons for this change?
2. How do the number and type of exams you have done this semester relate to your academic classes this semester or in prior semesters (i.e., when you cover it in class, do you tend to attempt more, attempt to solo more frequently, have more confidence, etc.)?
3. Do you see/feel you are becoming more proficient? In what ways or in what areas?

Students will be using the Exam Log Sheet system to verify that they have soloed an exam the minimum five times required to be granted a competency for that exam. They will also be keeping this record until the end of their training to prove that they are being properly supervised and have completed 100 non-duplicate exams by the end of the program. This is an ongoing process which the student must attend to throughout each semester. By the end of the student's clinical training, each student must participate in at least 100 non-duplicate exams. If a student fails to reach the 100-non-duplicate exam threshold by the end of their clinical training, they will receive an Incomplete (I) for RAD 240. This Incomplete grade will only be removed when the student has reached the 100-non-duplicate exam threshold.

Disciplinary Action

There is an expected level of interpersonal relations and professional conduct that is required when working and training in a medical setting. All students in the Radiography Program at Washtenaw Community College should make an effort to display professionalism and establish goals to obtain efficiency in this area. Students would be advised to review **The Radiologic Technologists Professional Code of Ethics** and **The Principles of Professional Conduct for Radiologic Technologists** [Appendix C & D]. While training in the clinical setting students will be required to adhere to the policies and procedures of the Radiography Program and sponsoring clinical education site. Failure to do so will result in disciplinary action and possible dismissal from the program. The act of violating a policy or procedure set by the program or sponsoring clinical education site will result in a Group I or II disciplinary actions.

The student will be notified of unacceptable behavior(s), infractions of this handbook, or violations of the *WCC Student Rights, Responsibilities, and Conduct Code* (SRRCC) by either the program faculty or appointed College staff (depending on the nature and severity of the situation). The student will have the opportunity to respond to any allegations. The SRRCC is found at <http://www.wccnet.edu/trustees/policies/4095/>

Group I Violation

Students who violate policies or display behaviors found in the Group I category will receive a failing grade for a clinical education course, be expelled from clinical education, and expelled from the radiography program. Dismissal for these offenses is permanent. ***Be advised that dismissal from a program may cause you to be ineligible to take the ARRT registry exam at any time in the future! It is the student's responsibility and not the WCC Radiography Program to contact the ARRT for an Ethics Pre-Application Review of the student's status to be allowed to take the registry exam.***

The following are Group I offenses:

1. Obtaining, possessing or using controlled substances or alcohol on hospital premises. Reporting to the clinical station under the influence of any of these substances.
2. Theft, abuse, misuse, or destruction of the property or equipment of any patient, visitor, student, hospital personnel, or the hospital.
3. Disclosing confidential information about any patient, student, or hospital personnel, or clinical site without proper authorization, or any violation of HIPAA.
4. Immoral, indecent, illegal, or unethical conduct on hospital premises.

5. Possession of a weapon on hospital premises.
6. Intimidation/threat (physical or verbal) or assault of any patient, visitor, student, instructor, or hospital personnel.
7. Disruption, destruction, or removal of patient, student, or official hospital records without authorization.
8. Falsifying any student or official hospital records.
9. Unexcused absence of three consecutive clinical days or three no-call, no-shows in a semester.
10. Request for removal by the clinical site for continued failure to perform at expected competency level, willful incompetence, serious infractions of site-specific rules, insubordinate behavior, or determination by the site's clinical instructor(s) or administration that continued training of the student would constitute a safety risk to patients or a disruption to normal department operations.
11. The unsafe practice of the profession.
12. Violation of the Radiography program's Radiation Safety Guidelines.
13. Violation of the principles stated in the "Code of Ethics for the Profession of Radiologic Technology" or "Principles of Professional Conduct for Radiologic Technologists" found in the appendix of this handbook.

Note: Documentation of these incidents must be on file and signed by the clinical instructor and student. [Appendix E]

Group II Violation

Violation of policies or display of behaviors found in the Group II category will result in one of the following disciplinary actions:

1. A written oral is given documenting the offense and counseling of the student.
2. Suspension - Dismissal from the clinical site for a specific number of days. This will be determined by the Clinical Coordinator and/or Clinical Instructor or Department Chair
3. A written reprimand and one letter grade reduction.
4. Failing grade for the course.

Depending on the severity of the offense, any or all of the disciplinary actions listed above could be taken against the student. The Clinical Instructor, Clinical Coordinator, and Department Chair will determine disciplinary actions to be taken. All students who incur a Group II violation will be placed on Clinical Probation for the remainder of the semester.

The following are Group II offenses:

1. Excessive tardiness.
2. Excessive absence.
3. Leaving assigned area without permission.
4. Soliciting, vending, or distribution of literature, written or printed matter without proper authorization.

5. Using abusive, obscene, or inappropriate language around any patient, visitor, student, or hospital employee.
6. Inappropriate dress or appearance based upon WCC policy.
7. Leaving hospital premises during assigned clinical hours without proper authorization.
8. Improper use of attendance or clinical hour make-up system according to clinical affiliate or program.
9. Violation of the policies or procedures of the student's assigned clinical site.
10. Exceeding the Radiography Program Radiation Dose Limits at the Action Level 2 dose.

Note: Documentation of these incidents must be on file and signed by the clinical instructor and student. [Appendix F]

Right to Due Process

In administering the policies of the Radiography Program, the Radiography Program and Washtenaw Community College guarantee each student accused of violating a published Radiography Program or College policy those principles of due process and fundamental fairness established by the Constitution of the United States. Due process at Washtenaw Community College means that a student is assured that his/her rights as a student will be protected. Specifically, a student has the right to be given written notice of all charges brought against him/her, the right to an opportunity to refute any charges either in writing or during a hearing made up of program officials and college officials outside of the program, the right to written notice of all decisions made after a hearing, and the right to appeal a decision. Students with questions are encouraged to read the WCC Board of Trustees Policy [4095 - Procedure for Student Rights, Responsibilities, and Conduct Code \(SRRCC\)](#).

Dress Policy

The personal appearance and demeanor of radiography students attending Washtenaw Community College reflect both the College and Program standards and are indicative of the student's interest and pride in the profession. The uniform dress code is one mutually agreed upon by Washtenaw Community College and the Clinical Education Centers. Uniforms will be clean, pressed, and free of any odor or perfume. The uniform requirement for all students will be a colored scrub top and pants (these colors will be designated according to the student's clinical site), and athletic shoes. The uniforms will have the WCC patch sewn on the left shoulder of either the lab coat or scrub top. Students may also have "WCC Radiography Student" embroidered on the front of their scrubs. Surgery uniforms will be worn **only** during the performance of surgery or similar assignments. Students are required to report to the clinical site neat, clean, and free of the smell of body odor, tobacco products, or perfumes of any type. Any facial hair will be neat and trimmed. To protect students from injury, hair should not go beyond the upper back and will be tied back. Expensive jewelry should not be worn in patient care areas; cosmetic nails should be kept at a reasonable

length. In addition, the student's clinical site may have additional policies regarding personal appearance and hygiene that students must adhere to. **The following attire is not allowed in the clinical setting: T-shirts (unless worn under the scrub top), Blue Jeans, Shorts, Athletic Sweatshirts or Athletic Wear, Open Toe Shoes, or ANY other attire considered unprofessional by the sponsoring clinical affiliate.** Students reporting with unacceptable clinical attire, appearance, or hygiene will be sent home, the hours missed will be counted as unexcused, and the student will incur a Group II Violation.

Meals

Each student expected to adhere to the policies of the affiliate for breaks and meals. Students who take prolonged breaks or lunch periods without the permission of their clinical instructor and/or supervising radiographer will be in violation of program policy. A Group II violation will be noted and the appropriate disciplinary action will be taken.

Semester Exit Conferences

The Clinical Coordinator will determine the final grade for clinical education. This will be based on completion of assignments, scores received during simulation exercises and performance evaluations submitted by the clinical instructor(s). During the final week of the term, students will meet with the Clinical Coordinator for a semester exit conference. The purpose of this meeting is to insure that all evaluation forms, papers, and records are complete and have been signed by the proper individuals. Students will receive their final grade and appropriate feedback for semester performance.

Exposure to Hazardous Materials and Communicable Disease Prevention: Universal Precautions

Since transmission of several human diseases capable of causing significant illness and death may occur from direct contact with "blood, saliva, or other body fluids" their droplets, aerosols, and possibly contaminated laboratory wastes via broken skin, sharps, and needle sticks, it is essential that standards of practice which will protect health students, their families, and clients/patients be put in place and enforced. Given the expected increase in persons with HIV antibodies in the total population and given the impossibility of identifying person who engage (now or in the past) in high risk activities that could result in virus exposure, the only realistic, consistent approach for prevention and control of HIV is the universal application of blood/body fluid precautions to all clients and in all clinical settings. This simplified approach prevents the potential transmission of virus infections including hepatitis B, hepatitis C, herpes, methicillin-resistant *Staphylococcus aureus* (MRSA), *Clostridium difficile* (C-Dif), and cytomegalovirus infections and Creutzfeldt-Jacob disease. This approach also establishes a standard that would prevent questions and concerns of classmates, laboratory partners and assist in preserving confidentiality for all patients and students.

The Standard for such protection shall include:

A. A basic premise that all patients should be considered potential carriers of contagious disease.

- B. The strong recommendation that all students obtain immunization, if available, against known diseases transmitted or direct contact with blood, saliva, or other body fluids to help prevent disease transmission.
- C. The reduction of cross-contamination between treatment areas and non-treatment areas such as home and school. Examples include, but are not limited to wearing uniforms from a clinical area to a public place, such as the grocery store or movies.
- D. The use of universal precautions at all times when working with any real or simulated client. The following are illustrations of universal precautions:
 1. Wash hands prior to and immediately after every patient contact.
 2. Use gloves whenever there is expected contact with blood and moist body secretions.
 3. Gloves must be worn when in contact with blood, and body fluids and mucous membranes and for handling items or surfaces soiled with blood or body fluids, or for performing venipuncture and other vascular access procedures.
 4. Change gloves after caring for each client, as glove integrity cannot be assured with washing and repeated use.
 5. Masks and protective eyewear or face shields should be worn during procedures that are likely to generate airborne droplets of blood or other body fluids to protect the exposure of mucous membranes of the mouth, nose, and eyes.

Communicable Disease Policy - Recommendations for Clinical Experience Restrictions

Disease/Problem	Relieve from direct patient contact	Partial Clinical Restriction	Duration
Conjunctivitis	Yes		Until discharges cease or until 24 hrs. after antibiotic initiated
Acute diarrhea with fever, cramps or bloody stools lasting more than 24 hrs.	Yes		Symptoms resolve
Herpes Simplex, Genitalia, Orofacial	No	Do not take care of high-risk or maternity, infant patients	Until lesions heal
Herpes Zoster	No	Do not take care of high-risk or maternity, infant patients	Until lesions heal
Pediculosis	Yes		Until 24hrs after treatment
Scabies	Yes		Until 24hrs after treatment
Staph. Aureus	Yes		Until lesions heal

Web-based Course Management System

All radiography courses (didactic and clinical) use the Web-based course management system, Blackboard. Blackboard enables instructors to provide students with access to course materials, communication tools, homework assignments, grades, and other learning activities. It is the student's responsibility to log in to Blackboard on a regular basis to access course materials.

To login to Blackboard, go to the WCC Gateway and enter your netID (e-mail user name, without the "wccnet.edu"). The password is your WCC email password. Information on student Blackboard accounts is available at <http://www.wccnet.edu/resources/blackboard/login/>. The Blackboard site serves to communicate such things as program announcements, changes in the course schedule, changes in assignments, schedule corrections, and program information pertinent to all students. All students are held responsible for the information posted on Blackboard. It is strongly advised that you access and read the messages posted there daily.

Advanced Placement Program

Transfer applicants requesting Advanced Placement will be reviewed and if accepted placed into the WCC radiography program on a space-available basis. The Program Director and Clinical Coordinator will determine the appropriate placement of the transferring applicant into the radiography program. To be eligible for this program, students must show documentation of completion of a U.S. military or JRCERT accredited program in Radiography and current clinical radiography experience. Advanced placement students must follow the policies and procedures outlined in the Radiography Program Handbook and will be under the supervision and guidance of the Clinical Instructor.

Radiography Program Assessment and Reporting

In an effort to engage in an ongoing quest for quality, the Radiography Program maintains a comprehensive system of planning and assessment. A variety of assessment methods are used, and the results are used to make changes to the curriculum and teaching in order to improve student learning.

Program Goals and Student Learning Outcomes

The mission of the Radiography Program is sustained by the achievement of the following goals and student learning outcomes:

Goal 1: Students will be clinically competent.

Student Learning Outcomes:

1. Students will perform diagnostic radiographic procedures.
2. Students will correctly operate radiographic equipment.
3. Students will demonstrate the ability to perform basic patient care assessment skills.

Goal 2: Students will communicate effectively both orally and in writing.

Student Learning Outcomes:

1. Students will use effective oral communication skills in the clinical setting.
2. Students will practice writing skills.

Goal 3: Students will critically think and effectively solve problems.

Student Learning Outcomes:

1. Students will calculate the correct exposure factors.
2. Students will solve problems in the clinical setting.

Goal 4: Students will exhibit professional values, attitudes, behaviors, and ethics

Student Learning Outcomes:

1. Students will value the principles of life-long learning.
2. Students will recognize the ethical and medical issues in patient care.
3. Students will exhibit professional behaviors in the clinical setting.

Program Effectiveness Outcomes

1. The 5-year average pass rate for the ARRT credentialing examination is not less than 75% on the first attempt.
2. The 5-year average job placement rate of graduates actively seeking employment is not less than 75% within 12 months of graduation.
3. Students admitted to the program will successfully complete the program within the 2-year sequence.
4. Graduates will indicate that the program adequately prepares them for entry-level positions.
5. Employers will indicate that the program graduates are adequately prepared for entry-level positions.

Annual Radiography Assessment Plan/Report

WCC RADIOGRAPHY PROGRAM ANNUAL ASSESSMENT DATA: 2012 - 2017

Goal 1: Students will be clinically competent.						
Student Outcomes	Assessment Tool	Benchmark	Timeline	Faculty Responsible	Results	
1.1	Students will perform diagnostic radiographic procedures.	Competency Maintenance section (12A and 12B) of the Final Clinical Performance Evaluation for RAD 240.	On a sampling of the Final Clinical Performance Evaluation (Competency Maintenance section) 95% of students will achieve a performance rating of 10 points or above on a 0- to 20-point scale, with 20 points awarded for "Effective Performance," 10 points awarded for "Adequate Performance, but needs improvement," and 0 points for "Inadequate Performance" when the students' clinical instructors are asked (12A) "On a regular basis the student performs radiographic procedures previously mastered from prior semesters," and (12B) "When the student is involved in these procedures the student is able to execute the examination with a minimum or no assistance."	Annually at the end of each Spring/Summer semester	Program Director and Clinical Coordinator	2012 - 2013: 100% 2013 - 2014: 100% 2014 - 2015: 100% 2015 - 2016: 100% 2016 - 2017: 100%
1.2	Students will operate radiographic equipment.	The Technical Aptitude section (C1 and C2) for General Radiography, Portable Radiography, and Fluoroscopic Radiography of the Final Clinical Performance Evaluation for RAD 240.	On a sampling of the Final Clinical Performance Evaluation (Technical Aptitude section) 95% of students will receive a "3" or better on a 1 to 4 Likert scale with "4" indicating the student performs at the appropriate competency level, "3" that the student's performance is satisfactory but could use some improvement, "2" that the performance is unsatisfactory and needs much improvement, and "1" indicating not at the appropriate competency level for "Setting Exposure Technique" and "X-Ray Tube and Bucky Tray Competency" in the areas of General Radiography, Portable Radiography, and Fluoroscopic Radiography.	Annually at the end of the summer semester	Program Director and Clinical Coordinator	2012 - 2013: 100% 2013 - 2014: 100% 2014 - 2015: 100% 2015 - 2016: 96% 2016 - 2017: 100%
1.3	Students will demonstrate the ability to perform basic patient care assessment skills.	RAD 222 Patient Assessment Skills Check-Out Form	On a sampling of the Patient Assessment Skills Check Out Form, 90% of students will achieve a passing grade on the venipuncture skills checkout form.	Annually at the end of the summer Winter semester	RAD 222 instructor	2012 - 2013: 100% 2013 - 2014: 100% 2014 - 2015: 100% 2015 - 2016: 100% 2016 - 2017: 100%

WCC RADIOGRAPHY PROGRAM ANNUAL ASSESSMENT DATA: 2012 - 2017

Goal 2: Students will communicate effectively both orally and in writing.						
	Student Outcomes	Assessment Tool	Benchmark	Timeline	Faculty Responsible	Results
2.1	Students will use effective oral communication skills in the clinical setting.	Radiography Student Professional Skills Evaluation	80% of clinical sites who return the Washtenaw Community College Radiography Program Radiography Student Professional Skills Evaluation will give students finishing RAD 240 a “4” or better on a 1 to 5 Likert scale with “5” indicating strongly agrees, “4” agrees, “3” neither agrees nor disagrees, “2” disagrees, and “1” strongly disagrees when responding to the statement in question 1, “The student communicates with patients in a manner that you would expect/require of entry-level radiology staff member.”	Annually at the end of each Spring/Summer semester	Clinical Coordinator	2012 - 2013: 100% 2013 - 2014: 100% 2014 – 2015: 100% 2015 - 2016: 96% 2016 - 2017: 100%
2.2	Students will practice writing skills.	Contrast Case Study paper	90% of students will achieve a score of 80% or better on the Contrast Case Study writing an assignment of RAD 120.	Annually at the end of Fall semester	Clinical Coordinator	2012 - 2013: 96% 2013 - 2014: 96% 2014 – 2015: 82% 2015 - 2016: 92% 2016 - 2017: 100%

Goal 3: Students will critically think and effectively solve problems						
	Student Outcomes	Assessment Tool	Benchmark	Timeline	Faculty Responsible	Results
3.1	Students will calculate the correct exposure factors.	RAD 124 the Effect of kVp on Image Contrast lab assignment	90% of students will score 80% or higher on the Effect of kVp on Image Contrast lab activity.	Annually at the end of Fall semester	RAD 124 instructor	2012 - 2013: 92% 2013 - 2014: 92% 2014 – 2015: 100% 2015 - 2016: 100% 2016 - 2017: 100%
3.2.	Students will solve problems in the clinical setting.	Radiography Student Professional Skills Evaluation	90% of the completed Radiography Student Professional Skills Evaluations will rate the students with a “4” or better on a 1 to 5 Likert scale with “5” indicating strongly agrees, “4” agrees, “3” neither agrees nor disagrees, “2” disagrees, and “1” strongly disagrees on question 6, “The student is able to reason through a problem, taking into account all available information, in a manner similar to an entry-level staff member when taking images.”	Annually at August	Clinical Coordinator	2012 - 2013: 100% 2013 - 2014: 92% 2014 – 2015: 91% 2015 - 2016: 96% 2016 - 2017: 100%

WCC RADIOGRAPHY PROGRAM ANNUAL ASSESSMENT DATA: 2012 - 2017

Goal 4: Students will exhibit professional values, attitudes, behaviors, and ethics.						
	Student Outcomes	Assessment Tool	Benchmark	Timeline	Faculty Responsible	Results
4.1	Graduates will value the principles of life long learning.	Graduate Exit Survey	50% of second-year students will indicate a desire to continue their education by responding to the statement, "Do you have plans to continue your education within the next 12 months?" on the Graduate Exit Survey.	Annually in August	Program Director	2012 - 2013: 77% 2013 - 2014: 70% 2014 - 2015: 80% 2015 - 2016: 68% 2016 - 2017: No Data
4.2	Students will recognize the ethical and medical issues in patient care.	RAD 110 writing assignment, Patient/Co-Worker Communication, and Cultural Diversity	90% of the students will achieve a score of 80% or better on the Patient/Co-Worker Communication and Cultural Diversity writing assignment for RAD 110.	Annually at the end of the Fall semester	RAD 110 instructor	2012 - 2013: 100% 2013 - 2014: 100% 2014 - 2015: 100% 2015 - 2016: 95% 2016 - 2017: 100%
4.3	Students will exhibit professional behaviors in the clinical setting.	RAD 240 Final Performance Evaluation	From the Final Clinical Performance Evaluation (Professional Mannerism section), 90% of students will achieve a performance rating of 10 points or above on a 0- to 20-point scale, with 20 points awarded for "Effective Performance," 10 points awarded for "Adequate Performance, but needs improvement," and 0 points for "Inadequate Performance" when the students' clinical instructors are asked if the student has the ability to display professionalism in the clinical setting.	Annually end of the Spring/Summer semester	Clinical Coordinator	2012 - 2013: 100% 2013 - 2014: 100% 2014 - 2015: 100% 2015 - 2016: 96% 2016 - 2017: 100%

WCC RADIOGRAPHY PROGRAM ANNUAL ASSESSMENT DATA: 2012 - 2017

Program Effectiveness Measures:						
	Student Outcomes	Assessment Tool	Benchmark	Timeline	Faculty Responsible	Results
1.	The 5-year average pass rate for the ARRT credentialing examination is not less than 75% on the first attempt.	ARRT Annual Program Summary Report for WCC graduates	The five-year average pass rate of not less than 75% on the 1 st attempt of the National Radiography Certificate Examination administered by the American Registry of Radiologic Technologist (ARRT).	Annually in July	Program Director	2012 - 2013: 100% 2013 - 2014: 96% 2014 - 2015: 100% 2015 - 2016: 100% 2016 - 2017: 96%
2.	5-year average job placement rate of graduates actively seeking employment is not less than 75% within 12 months of graduation.	Graduate Survey	Five-year average job placement rate of not less than 75% within 12 months of graduation.	Annually in July	Program Director	2012 - 2013: 94% 2013 - 2014: 87% 2014 - 2015: 100% 2015 - 2016: 100% 2016 - 2017: 100%
3.	Students admitted to the program will successfully complete the program within the 2-year sequence.	Admission/ Graduation data	70% of the students admitted and enrolled in the program will complete the program within two years. The measure will be based on program retention rates (i.e., the number of students admitted to the program and the number of students who complete the program within two years.)	Annually in July	Program Director	2012 - 2013: 72% 2013 - 2014: 74% 2014 - 2015: 71% 2015 - 2016: 74% 2016 - 2017: 71%
4.	Graduates will indicate that the program adequately prepared them for entry-level positions.	Graduate Exit Survey	90% of graduates will express satisfaction with the program by responding to the statement, "Do you feel that the WCC Radiography Program prepared you for an entry-level position in a radiology department?" on the Graduate Exit.	Annually in July	Program Director	2012 - 2013: 100% 2013 - 2014: 100% 2014 - 2015: 100% 2015 - 2016: 100% 2016 - 2017: No Data
5.	Employers will indicate that the program graduates are adequately prepared for entry-level positions.	Radiography Student Professional Skills Evaluation	80% of clinical sites who return the Washtenaw Community College Radiography Program Radiography Student Professional Skills Evaluation will give students finishing RAD 240 a "4" or better on a 1 to 5 Likert scale when responding to the statement in question 9, "If an entry-level position was open and this student was applying, you would hire this student."	Annually in August	Clinical Coordinator	2012 - 2013: 81% 2013 - 2014: 80% 2014 - 2015: 91% 2015 - 2016: 95% 2016 - 2017: 100%

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Program Policies

Students are advised that violations of any policy or procedure can result in disciplinary action and may lead to grade reduction, course failure, temporary discontinuation of training, or dismissal from the program.

Attendance Policy

Attendance policies for lecture and laboratory courses

Attendance at all scheduled radiography courses (e.g., lecture, labs, and clinical) is required. When a student misses class, it is the student's responsibility to notify the instructor and provide an explanation. Specific attendance policies are listed in each radiography course syllabus.

Attendance policies for clinical education courses

Excused Clinical Absences

Excused absences are defined as absences resulting from incapacitating illness, unforeseen accidents and emergencies, jury duty, academic leave, and bereavement leave. As a medical professional in training, student radiographers must learn and be efficient in performing many different skills. To achieve competency in the clinical setting it is imperative that the student understands the importance of observing, assisting, and soloing radiographic procedures. From these observations, the student will acquire the skills and confidence needed to perform certain tasks associated with the profession. In addition, because success in clinical skills is so closely related to knowledge gained in academic courses, attendance of academic courses is tied to clinical performance. To ensure that this learning process occurs, (1) students are required to possess the maximum clinical hours to complete the radiography program and (2) students must be at their clinical site during the academic semester. This will require students to make up any time missed during their clinical training and not take vacations except during scheduled college breaks.

Incapacitating Illness, Accidents or Unforeseen Emergencies

In certain instances such as incapacitating illness, accidents or unforeseen emergencies, an allotted amount of time is given per semester for missing clinical (see the grid below) before a student is placed on clinical probation; however, all hours missed during the semester must be made up to receive full credit for the term. For an absence to be considered excused, a student must provide a written explanation and/or official documentation (i.e. doctor's excuse) for the time missed. If it is deemed by clinical faculty that the explanation is not valid, the appropriate disciplinary action will be taken based on Group II standards.

Course	Clinical Hours	Excused Clinical Absences Limit
RAD 110	232	3 Days
RAD 120	232	3 Days
RAD 150	376	4 Days
RAD 217	336	3 Days
RAD 225	336	3 Days
RAD 240	224	2 Days
Total Clinical Hours	1736 hours	

Procedure for notifying the clinical site of an absence

If you are going to be absent for any reason . . .

Students must use the following procedure when notifying their clinical site that they will be absent:

1. The student must **personally** notify their site's **clinical instructor and the program, Clinical Coordinator**, the day of the absence. Failure to do so is a no-call, no-show for the semester.
2. Students should call their clinical site **no later than an hour after the shift has begun**.
3. If there is a problem with calling the clinical site or speaking directly to the clinical instructor, the student should either contact the departmental supervisor or continue their efforts in notifying the clinical instructor. No other methods will be acceptable. **A message must be left on the voice-mail of the Clinical Coordinator.**
4. Students that do not notify clinical faculty personally will receive the appropriate disciplinary action determined by the clinical coordinator.

Banking time for future appointments is not an option unless approved by the appropriate clinical faculty.

Clinical Hour Make-up Policy

Students must make up all clinical time missed with the exception of academic or bereavement leave to receive full credit prior to the end of the current semester. Makeup time is to be scheduled with the clinical instructor and no one else! It is the responsibility of the student to arrange for this make-up time with the clinical instructor, and once arranged the student shall not change it. The student must also confirm this make-up time with the program's Clinical Coordinator. Students have until the last day of the semester to make-up clinical time unless other arrangements have been made with the clinical instructor and clinical coordinator. ***Missing academic classes or labs to make up clinical time is not acceptable. Students found to be doing so will have this make-up time taken away from their clinical hours and will receive a zero (0) for that lab assignment.*** If a student misses a scheduled make up day, this will count as a Group II violation and will be dealt with according to disciplinary policies. If a student is unable to make-up missed hours during the current semester, a grade reduction will occur. These hours will transfer to the next semester for the appropriate makeup procedure. Any time missed during the semester will be added to hours from the previous semester. If there are previous hours to be made up at the end of the current semester, the student will receive an Incomplete (I) and will be required to make-up the missed hours before continuing their clinical training. If this does not occur before the beginning of the next semester, the student will receive a failing grade (F) for the corresponding semester.

Unexcused Clinical Absences

Any other time missed not for incapacitating illness, unforeseen accidents and emergencies, jury duty, academic leave, and bereavement leave is considered unexcused unless deemed excused by the appropriate clinical faculty. An unexcused absence is a group II violation and will be dealt with according to clinical faculty.

Disciplinary Procedure for Unexcused Clinical Absences

The following disciplinary grading procedure will be used for unexcused absences per semester: Three (3) unexcused absences in a semester are considered excessive and a Group II offense and the

student will be put on clinical probation. Five (5) unexcused absences will result in a one-letter grade reduction for the clinical course. Six (6) unexcused absences in a semester will result in the failure of the clinical course. There are no “warnings” or “steps” to this policy.

Punctuality/Tardiness

The Radiography Program requires all students to be on time and be in their assigned area at the beginning of their designated shift. Students not in their area will be considered tardy. If being late is unavoidable, the student will call the clinical instructor to let him/her know the time of arrival. A tardy is defined as punching in less than one minute before the designated start time of the assigned clinical shift, punching out before the designated end time for the clinical shift, failure to punch in for a shift, or failure to punch out for a shift. Punctuality is an important part of a student’s clinical evaluation and grade; therefore, students should make every effort to consistently be in their assigned area at the correct time.

Disciplinary Procedure for Tardiness

Three (3) tardies in a semester will be considered excessive and a Group II offense and the student will be put on clinical probation (See Disciplinary Action). Five (5) tardies will result in a one letter grade reduction for the clinical course. Six (6) tardies in a semester will result in the failure of the clinical course. As with unexcused absences, there are no “warnings” or “steps” to this policy.

Cell Phone Usage

The use of cell phones is prohibited during class lectures, labs, exams, and while at a clinical site, or at any other time that their use could be disruptive. Cell phones must be turned off and placed in a secure place and used only during breaks or lunch. Exceptions to this policy include potential emergencies, such as a family illness. Cell phone and electronic device use are prohibited during all testing and assessment activities.

Cell phone use by students in clinical areas at the student’s clinical site is prohibited. Cell phone use in an exam room or work area of the department could be seen as a HIPAA violation by your clinical site, and it is viewed by the Radiography Program as a distraction from the student’s primary responsibilities and therefore constitutes poor professional judgment and unsafe practice of the profession, both of which are Group I violations and grounds for dismissal.

Cell Phone Camera

The use of cell phone cameras is prohibited during class lectures, labs, exams and at the clinical site.

Personal Calls

Department phones may not be used for personal calls except for emergencies.

College Closing

Notification of College Closing

Bad weather, utility outages, or other circumstances may cause WCC to cancel classes or delay the start of classes. WCC has implemented an emergency notification service that sends messages to your phone, PDA, email account, or TTY/TDD device for the hearing impaired. To sign up for the WCC Alert Service log in to MyWCC and choose “WCC Alert – Emergency Notification Service.”

You also can learn if WCC is closed by calling WCC's School Closing Information Line at 734.677.5288 or checking the WCC homepage at wccnet.edu. Local radio and television stations will also provide information.

Canceling Clinical Days

If the college cancels classes due to inclement weather students are not to report to their clinical sites. In the event the college is closed due to inclement weather after the start of the clinical day, the WCC Clinical Coordinator will contact the off-site clinical instructors to confirm that the college has closed and students will be dismissed from clinical. Students will not be required to make up clinical hours that are missed because of official college closings due to inclement weather. If the college is on a delayed start schedule, students are required to report to their clinical sites at the time specified for the delayed opening of the college.

If hazardous driving conditions prevent a student from attending clinical when the college is not closed the student will be required to make up the missed clinical hours, but they will not be counted as unexcused. Students must use their best judgment as to the safety in attempting to drive to their clinical site in inclement weather.

In the event, the college campus is closed due to operational problems (water main break, loss of electricity, gas leak, etc.), on scheduled clinical days students are required to remain at their clinical site. The exception to this is any students who must pick up their children in the Family Education Building on campus if the campus closes.

Computers in Radiography Lab (OE 121)

All users of the computers in the radiography lab (OE 121) must comply with all federal, state, and other applicable laws; all applicable WCC policies and procedures; and all applicable contracts and licenses. Students who violate this policy may be subject to suspension and/or dismissal from the Radiography program and may be subject to criminal prosecution.

Criminal Background Check

A criminal background check is required for all students prior to admission to the Radiography program and may be required again prior to the beginning of a clinical assignment. A student with a positive background check including misdemeanors or felony offenses including convictions or charges resulting in a plea of guilty, plea of nolo contendere (no contest), withheld or deferred adjudication, suspended or stay of sentence, pre-trial diversion activity, or military court-martial cannot be admitted to the program until the American Registry of Radiologic Technologists Pre-Application Review Process is completed and clearance from the ARRT Ethics committee is obtained.

Drug-Free Policy

Washtenaw Community College and its affiliated clinical education sites are drug-free facilities. Students and faculty are prohibited from the unlawful manufacture, distribution, dispensing, possession or use of any narcotic drug, amphetamine, barbiturate, marijuana, alcohol, or any controlled substance while on campus or at a clinical education site.

Federal laws criminalizing the manufacture, sale, and use of marijuana remain in place, as do federal regulations that require institutions of higher education to maintain drug-free campuses to

qualify to receive federal financial aid. As an agency that accepts federal funding, the College must also comply with the federal Drug-Free Workplace law. This law, which supersedes state statute, still considers marijuana a banned substance. Accordingly, marijuana will continue to be prohibited on all College property and clinical affiliates at all times.

Failure to comply with the drug-free policy will result in immediate referral to the local police department for prosecution. Students whose actions significantly endanger patient safety (which includes but is not limited to, alcohol/drug usage or sexual misconduct) will be dismissed from the program immediately.

Students may be subject to a drug screen at the discretion of their clinical site. If the clinical site finds a student's drug screen to be unsatisfactory, the student may be dismissed from the program.

Email

All students are required to use their WCC student email account. Students are responsible for information transmitted to them via their WCC student e-mail from the College and the Radiography faculty. Information on WCC student email accounts can be found at <https://www.wccnet.edu/services/email/>.

Examinations

Students are expected to take all examination during assigned times, as listed on the course syllabus. If a student misses an examination without a valid reason, as determined by the course instructor, a grade of zero (0) will be posted in the electronic grade book for that examination.

Failing the program

In order to progress to the next semester, students must pass all radiography courses, didactic and clinical. Students who fail any radiography course at the end of a semester will be dismissed from the program.

Academic Failure

Students who fail or withdraw due to a poor academic performance from a lecture or laboratory course will be dismissed from clinical training and from the program for one year from the beginning of the semester failed. Students planning to reenter the program the following year must submit a reentry request to the Radiography Program Director prior to registering for the appropriate semester. Reentry in the radiography program will be based on space availability in the classroom, clinical site, and past student performance. Once space has been approved, the student will register for RAD 189--Clinical Education Reintegration and sign a contract which will stipulate the academic performance required to re-enter the program.

Clinical Failure

Students who fail or withdraw from a clinical course due to failing grades, poor clinical performance, unfulfilled Clinical Probation Contracts, or Group II violations will be dismissed from clinical training and from the program. If the student is allowed to reenter the program and plans to reenter the program the following year, he/she must submit a reentry request to the Radiography Program Director prior to registering for the appropriate semester. If a clinical space is approved, the student will register for RAD 189--Clinical Education Reintegration—which will allow the student time to

acclimate themselves to clinical training. Students should also be aware that reentry to the program after failure due to Group II violations (Appendix F) or performance or behavioral issues will require a student to sign and fulfill a contract with the Department Chair and Clinical Coordinator which addresses the correction of those improper behaviors or performance issues. See the sections of the handbook concerning Group II violations and Criteria for Clinical Performance Evaluations.

Clinical failure due to Group I Violations will result in the student being dismissed from the program. The student should be aware that dismissal from clinical training and the program for **any and all** Group I violations is permanent and students will not be allowed to reapply to the radiography program. ***Be advised that dismissal from a program may cause you to be ineligible to take the ARRT registry exam at any time in the future! If you choose to try to re-enter training in another program, it is your responsibility and not the WCC Radiography Program to contact the ARRT for an Ethics Pre-Application Review of your status to be allowed to take your registry exam.***

Important: Contracts signed by students to re-enter training in the Radiography Program after either academic or clinical failure are binding and long-term, and students who do not fulfill the terms of these contracts will be dismissed from the Radiography Program with no option for re-admittance. In other words, you will be given only one chance to re-enter training in the Radiography Program.

Disclaimer: Also be aware that semester grading requirements and evaluation procedures for all courses are subject to change.

Grading Policy

Grading Scale

The following grading scale will be used to determine all final radiography course grades:

A	100-97	C+	82-80	D+	72-70
A-	96-92	C	79-76	D	69-67
B+	91-89	C-	75-73	D-	66-64
B	88-86			F	63 and Below
B-	85-83				

A breakdown of how the final course grade will be calculated (e.g., the weighting of grades, curves, extra-credit options) will be included in each radiography course syllabus.

A grade of C- or higher must be achieved in all radiography courses in order to remain in the program. Students who receive a grade of C- in a radiography course will be placed on probation (see Academic and Clinical Probation). A grade below C- in a radiography course will result in dismissal from the program.

Incomplete (I) Grades

If the instructor determines that the student has nearly completed the requirements of a course but is missing a small but essential part of the course due to unforeseen or extenuating circumstances, the

instructor may issue an 'I' grade. The 'I' grade will remain on the student's transcript until the requirements of the course are met and a letter grade was given or an instructor-determined deadline has passed with a maximum of one year. After the deadline, the grade that has been preset by the instructor will be posted on the transcript if the work is not completed.

Withdrawal (W) Grades

A 'W' grade is posted to the student's permanent academic record for any course the student withdraws from after the 100% refund deadline.

Grade Report

Each instructor will post the final course grade in the radiography Blackboard course. Students may also display and print a grade report through MyWCC.

Prohibition of Sexual Misconduct

Any form of sexual misconduct jeopardizes the welfare of our students, employees, and the safety of the College community. Sexual misconduct includes acts of sexual assault, dating/domestic violence, sexual harassment, stalking, and more. Sexual misconduct diminishes students' individual dignity and may cause lasting physical and psychological harm. Sexual misconduct violates our institutional and community values. Sexual misconduct will not be tolerated at Washtenaw Community College and is expressly prohibited.

Complaints Procedure

If a student wishes to lodge a complaint concerning anything other than to contest an evaluation, grade, or sanction, the complaint must be filed in writing to the program faculty or radiography program director. Complaints can be filed anonymously. All documentation of complaints will be kept on file for a period of two years and will include information on how the complaint was resolved. All complaints are reviewed on an annual basis by the radiography faculty to look for trends that might negatively affect the quality of the educational program.

Grievance Procedure

If a student wishes to contest an evaluation, grade, or sanction that they receive during a clinical or didactic course or if the student has a concern with an instructor or technologist, the following steps should be followed:

1. Students who have concerns/problems of an instructional nature (evaluations, clinical assignments, etc.) or a grievance shall first confer with the instructor involved in an effort to resolve the issue informally. The student should take up these issues with the concerned parties within one week of their occurrence and expect to have the issue addressed/resolved within one week.
2. Issues that are unresolved at the informal stage or are of a more serious nature shall be referred by the student in writing to the program Clinical Coordinator or to the didactic course instructor and the Radiography Program Director. This document must contain a description of the problem or issue, the names of those involved, and the dates on which any incident/problem took place. The student should take up these issues with the Clinical Coordinator or the didactic course instructor within two weeks of their occurrence and expect to have the issue addressed/resolved within one week. If the issue concerns a final course grade, the student must submit a grievance within 5 months of the final grade posting.

3. Issues that are unresolved by the Clinical Coordinator or the didactic course instructor and the Radiography Program Director shall be referred by the student in writing to the Allied Health Department Chair using the above-mentioned format. The student should take up these issues with the Allied Health Department Chair within three weeks of their occurrence and expect to have the issue addressed/resolved within one week. If the issue concerns a final course grade, the student must submit a grievance within five months of the final grade posting.
4. Issues that are unresolved by the Allied Health Department Chair will be referred to the Divisional Dean of Health using the above-mentioned format. The student should take up these issues with the Divisional Dean within four weeks of their occurrence and expect to have a response within one week. If the issue concerns a final course grade, the student must submit a grievance within five months of the final grade posting.
5. A final appeal may be made in writing to the Vice-President for Instruction. The Vice President for Instruction shall make a final determination and shall inform the student in writing of his/her decision.

The Radiography Program's student grievance process conforms to that of Washtenaw Community College as well as the grievance process stipulated by the Joint Review Committee on Education in Radiologic Technology (JRCERT), and students with questions are encouraged to read the College's [WCC Complaint Procedure](http://www.wccnet.edu/consumer-information/complaintprocedure/) found at <http://www.wccnet.edu/consumer-information/complaintprocedure/> for clarification. All documentation of student grievances will be kept on file for a period of two years and will include information on how the grievance was resolved. All grievances lodged against the radiography program are reviewed on an annual basis by the radiography faculty to look for trends that might negatively affect the quality of the educational program.

Insurance

Student health insurance

Students must have their own health insurance policy and provide evidence of such to the WCC Clinical Coordinator. Students are required to maintain their own health insurance policy at all times while they are enrolled in the Radiography program. Students are solely responsible for their medical bills while enrolled in the program. No student will be permitted to report to his or her assigned clinical site without proper health coverage.

Student liability Insurance

Washtenaw Community College will provide incidental malpractice insurance protection for students and program faculty when on assignment in clinical affiliates. The malpractice insurance will cover the student only on approved clinical assignments and when being supervised by a registered radiologic technologist. Students who participate in unapproved clinical activities are not covered by this policy and may be subject to disciplinary action.

Identification (ID) Badges

Each student will be issued a personal WCC radiography student photo identification badge (ID) at no cost. If lost, a fee will be assessed for a replacement ID badge. Students must wear a WCC radiography student photo identification badge on their uniform. In addition to these badges, clinical affiliates may require students to wear an identification badge issued by hospital security.

The badge is the property of the clinical education site and must be returned when the students complete their clinical education assignment.

Leave of Absence

Academic Leave

Radiography students at WCC are encouraged to become involved in extracurricular educational events that augment their didactic and clinical experience (i.e. Tech Bowl Practice, professional conference, etc.). Students that participate in these extracurricular functions will be excused from didactic courses and clinical training and will receive attendance credit. Absence from classes while participating in an extracurricular activity does not relieve students from responsibility for any part of the course missed during the period of absence.

Medical Leave

A student who experiences medical conditions or psychological conditions that significantly impair his or her ability to function successfully or safely as a student may request a leave of absence from the program. In order to return to the program, the student must provide documentation from a physician or appropriate healthcare provider that the condition that precipitated the leave of absence has been sufficiently addressed to the point where it will no longer adversely affect the student's safety and functioning. If the appropriate document is not provided, the student will be denied readmission to the program.

Pregnancy Leave

A pregnant student enrolled in the radiography program has certain rights under Title IX which are outlined on the WCC website under [Pregnant Student Rights](#). In addition, the radiography program must adhere to the stated policy as provided by each clinical affiliate and the Michigan Department of Public Health, Division of Radiological Health. Female radiography students will make their own choice whether or not to declare pregnancy. A declared pregnant woman is "a woman who has voluntarily informed, in writing, the college's radiation safety officer of her pregnancy and the estimated date of conception." See the Radiation Safety section regarding pregnant students.

The declared pregnant student may elect to take an excused pregnancy leave from the program for one year and be readmitted the following year. The student will be given credit for all college work completed but must register for a RAD 189 course the semester before reentering the program to evaluate her clinical competency level. If a declared pregnant student does not return to the program after one year, she must reapply to the program and the need to repeat previously completed course work will be reviewed on a case-by-case basis.

Military Leave

A military leave of absence is granted to students whose military reserve obligations may necessitate a period of absence from the program when they are called to extended active duty. Students returning to the program from active duty will be eligible for readmission once they have notified the program director and have supplied any pertinent military papers requested by the program director.

Personal Leave

A personal leave of absence may be granted for reasons that include, but are not limited to, financial status; child care; illness, bereavement, or other critical matters in one's family.

Bereavement Leave

Students will be granted an excused leave from didactic courses and clinical training in the event of an immediate family member's death. This will include father, mother, husband, wife, father-in-law, mother-in-law, brother, sister, grandparent or relative living in the immediate household. These days may be taken without penalty at the discretion of the program faculty.

Medical debts

Students must be free from any outstanding medical debts from the WCC Radiography Program's affiliated hospitals or clinics prior to being admitted to the program.

Misdemeanor or Felony

A student who is charged with a misdemeanor or felony while enrolled as a radiography student is obligated to report this event to the Program Director immediately.

Probation

Students may be placed on probation for unsatisfactory progress in a course or unsafe or poor performance at a clinical site. The probationary status serves as a warning that poor academic and/or clinical performance may result in dismissal from the program. Students on probationary status are ineligible to participate in any extracurricular program-sanctioned activities (i.e., conferences, trips).

Academic Probation

Students who receive a final grade in the "C-" range (75% - 73%) for any lecture or laboratory radiography course will be placed on academic probation. The student must ...

1. submit an Academic Probation Action Plan form to the program director, which outlines, in detail, what the student plans to do improve in the next semester.
2. schedule a meeting with the program director to discuss specific areas that require improvement and identify resources to assist the student.
3. schedule a meeting with the program director to review the student's midterm grades.

If the student receives any final grades in the C- range during the probationary period, he or she will remain on academic probationary status and must continue to meet with the program director.

Clinical Probation

Students who receive a final grade in the "B" to "C-" range (88% - 73%) for **any clinical course**, receive an "Inadequate Performance" in any area of the final Clinical Performance Evaluation, receive an 88% or less on a final Clinical Performance Evaluation, fail any simulation exercise, or who receive a Group II violation (see Appendix F) will be placed on Clinical Probation. The student is responsible for the program Clinical Coordinator to correct the performance or behavioral issue. The students are only eligible to continue their clinical training under the following guidelines:

1. The student will submit an action plan to the program clinical coordinator which outlines, in detail, what the student plans to do improve his/her clinical performance or behaviors.
2. Specific areas that require improvement (cognitive, psychomotor, and affective) will be outlined in a contract developed by the program faculty.
3. This contract will outline specific courses of action and/or levels of competency the student must achieve to continue in the program. The student must show the scores or competency detailed in the contract by the end of the contract period to be eligible for continuation in the program.
4. If it is determined that the student has achieved the scores, competencies, or behavioral changes under the guidelines specified in the contract, the incomplete grade will be changed to the appropriate grade at the end of the contract period and the student will be allowed to continue in the program.
5. If it is determined that the student has not achieved the scores, competencies, or behavioral changes under the guidelines specified in the contract, the student will receive a failing grade “F” at the end of the semester for the clinical course.

Patient Confidentiality

Students are to maintain patient confidentiality as outlined by the Health Insurance Portability and Accountability Act (HIPAA). Breach of confidentiality may be in violation of federal and or state statutes and regulations and may be subject to prosecution under the law.

Radiation Safety

The Washtenaw Community College Radiography Program strives to maintain a safe working and learning environment for faculty, staff, students, and the public. To promote the safe and effective use of ionizing radiation in diagnostic imaging the program has endorsed and adopted the principle of keeping exposures to ionizing radiation **As Low As Reasonably Achievable (ALARA)**. ALARA means making every reasonable effort to maintain exposures to radiation as far below the dose limits set by federal and state regulations as practical, taking into consideration all economic and social considerations.

Dosimeters (radiation badges)

All staff and students routinely working in radiation areas must wear a dosimeter. A dosimeter is used to measure the amount and type of radiation received by the wearer over a period of time (typically 3 months). Dosimeters do NOT protect or shield anyone from radiation exposure; they merely inform how much radiation (if any) that the wearer received.

The dosimeters are purchased from a commercial vendor contracted by Washtenaw Community College. Dosimeters are provided to the radiography students at no cost. The radiography program director will order and distribute the dosimeters. Each student enrolled in the radiography program will be issued two dosimeters, one waist, and one collar, on a quarterly (3-month) basis during the two-year program. The quarters begin on August, November, February, and May.

Dosimeter exchange cycle

Dosimeters must be exchanged promptly at the beginning of each quarter period. The dosimeters should be on campus the first week of each designated quarter: August, November, February, and May. The program director will announce when the new badges have arrived and students will have one week to exchange badges. If badges are not exchanged when requested, the student will not be permitted to attend his/her clinical site until the badges are exchanged and then will be

required to make up the clinical time. Clinical time missed due to this is considered an unexcused absence.

Investigational/Action Dose Limits

In an attempt to follow the guidelines of the ALARA concept of radiation exposure, investigational/action limits have been established for the maximum permissible radiation exposure of faculty and students that are below the federal and state regulations. The following investigational/action limits have been established for radiation exposures which, when exceeded, will initiate an investigation and corrective action by the program director and clinical coordinator.

Action Level 1: A verbal warning will be given to a student and recorded in the student's record who exceeds the quarterly dose equivalent level of 0.125 rem (125 millirems).

Action Level 2: A written warning and action plan will be given to a student and recorded in the student's record who exceeds the quarterly level of 0.375 rem (375 millirems). At this action level, the student will incur a Group II violation and will be placed on Clinical Probation.

Violation of the Radiography program's radiation safety guidelines is a Group I Violation and could result in the student failing his/her clinical course for that semester.

Monitoring Radiation Exposure

Student radiation exposure will be monitored during the entirety of the program and will be maintained by the program director. At the end of each quarter, dosimeters will be collected by the program director and returned to the commercial vendor for processing and analysis. After processing the vendor will generate a dosimeter report for each student. Upon receipt of the quarterly dosimeter report, the program director will review each student's exposure report to ensure compliance with the investigational/action dose limits established for the program and then post the report for students to read and initial. If any student meets or exceeds the program's investigational dose limits, the program director and clinical coordinator will meet with the student to determine the cause and an action plan will be developed to ensure that the student is following the proper radiation protection protocols.

The program director will maintain the dosimeter reports indefinitely. The dosimeter reports are treated as confidential and will not be released to other individuals or organizations without the written permission of the individual student. Students may request a copy of their dosimetry report at any time by submitting a written request to the program director.

How to Wear Dosimeter

Each student will receive two (2) whole-body dosimeters, one designated as the collar badge and the other as the waist badge. The collar and waist badges must be worn on the appropriate area with the label facing out. The proper placement of each dosimeter is depicted on the front of each badge. During fluoroscopic procedures, the collar dosimeter is worn outside of the lead apron and the waist dosimeter is worn underneath the lead apron. Wearing the collar and waist dosimeters consistently in the proper locations is critical to obtaining an accurate radiation exposure report.

Use and Care of Dosimeters

Each student to whom dosimeters are issued has the responsibility to ensure its proper use and care. Below is a listing of the proper use and care of the dosimeters.

1. Dosimeters must be worn in the radiology department at assigned clinical sites and during laboratory courses on campus. Any student who reports to a clinical site or a laboratory course session without the proper dosimeter will not be permitted to use the radiation-emitting equipment.
2. Dosimeters are issued to individual students and may not be worn by anyone other than the person whose name is on the badge. Do not wear someone else's badge or loan your badge to another person.
3. Dosimeters must always be placed in the plastic holder and worn with the labeled side facing away from the body. Never remove the radiation badge from its laminated pouch.
4. Dosimeters must be worn on the designated body location as indicated on the front of the badge. One dosimeter should be worn on the collar and the second on the waist. Wearing dosimeters incorrectly can result in false dose measurements.
5. In procedures that require a lead apron to be worn (e.g., fluoroscopy and C-arm), the waist badge is worn under the lead apron and the collar badge is worn outside of the lead apron. This is done to monitor the effectiveness of the shielding and the exposure to unshielded areas such as the head, neck, and extremities.
6. Dosimeters must not be shielded by an employee identification badge, anatomic markers, pens, buckles, buttons, tape, etc.
7. Do not leave your dosimeters in an x-ray room.
8. Store dosimeters in a low radiation background area, away from excessive moisture and heat, when not being worn. Do not leave dosimeters on the dashboard of your car.
9. Accidental exposure of a dosimeter, (i.e, left in a radiographic room on an apron) must be reported to the program director immediately.
10. Pin holes, water, pressure, chemicals, and heat can damage the dosimeter and prevent evaluation of the dose. Always remove dosimeters from your uniform before laundering the uniform.
11. If your dosimeters become contaminated, damaged or lost, you must immediately submit a written request for a replacement to the program director.
12. Do not wear your dosimeters when you receive medical or dental x-rays or undergo radiation therapy treatments or nuclear medicine studies.
13. Exchange your dosimeters promptly. Time gaps make the analysis more difficult, less accurate, and reduces the legal and historical value of the reports.

Pregnant Students

The increased sensitivity of rapidly dividing cells makes the human embryo and fetus particularly susceptible to injury from exposure to ionizing radiation. For this reason, the Nuclear Regulatory Commission (NRC) regulations, 10 CFR Part 20, requires that the radiation dose to an embryo/fetus does not exceed 0.5 rem (500 mrem) for the entire gestation period, of a declared pregnant worker (10% of the occupational dose limit for adults).

It is up to the pregnant student to decide whether or not she will formally declare her pregnancy. In order for the occupational exposure limits for an embryo/fetus to apply, a pregnant student must voluntarily declare her pregnancy, in a written and signed statement, to the program director. The written declaration of pregnancy must include the estimated date of conception (e.g, only the month and year need to be provided). The declaration of pregnancy may be withdrawn at any time by a

signed, dated, written statement of withdrawal submitted to the program director.

If a student chooses to declare her pregnancy the program director will meet with the declared pregnant student to provide counseling regarding the risks of radiation exposure to the embryo/fetus and additional measures to be taken to protect the embryo/fetus. The student will be given a copy of the NRC Regulatory Guide 8.13 *Instructions Concerning Prenatal Radiation Exposure*, which provides additional regulatory information and questions and answers concerning prenatal radiation exposure. The program director will also discuss the following options for completing the program:

1. The declared pregnant student may remain in the program and perform her assigned clinical rotations just as a non-pregnant student. A fetal dosimeter will be provided to the declared pregnant student and will be monitored on a monthly basis. The fetal dosimeter should be worn at the waist level and under any protective apron at all times while in the clinical education setting.
2. The declared pregnant student may discontinue her clinical education and continue in the didactic component of the program during the pregnancy. Clinical hours missed during the pregnancy must be completed as soon as the student's doctor gives her a release to continue her clinical training.
3. The declared pregnant student may elect to take an excused pregnancy leave from the program for one year and be readmitted the following year. The student will be given credit for all college work completed but must register for a RAD 189 course the semester before reentering the program to evaluate her clinical competency level.
4. If a declared pregnant student does not return to the program after one year, she must reapply to the program and the need to repeat previously completed course work will be reviewed on a case-by-case basis.

If you are pregnant or believe you may be pregnant, contact the program director. All inquiries will be kept in confidence.

Returning dosimeters at the end of the program

The dosimeters issued to students during the program are the property of Washtenaw Community College. All dosimeters must be returned or accounted for before a student will be permitted to graduate. Failure to return dosimeters upon completion of the program will prevent a student from taking the American Registry of Radiologic Technologist (ARRT) radiography certification examination.

Radiation Safety Rules

Students must perform radiographic examinations in a safe manner according to the ALARA principle utilizing the three cardinal rules (time, distance and shielding) of radiation protection and provide patient and personnel protection from ionizing x-rays by practicing the following:

No student will perform a radiographic exposure on any person that has not been ordered by a physician.

Radiography Lab (OE 121) Radiation Safety Rules

- When operating the radiographic equipment in the radiography lab (OE 121), students must always remember the cardinal rules of time, distance, and shielding.
- Students must be directly supervised by a registered radiologic technologist while using the fixed and mobile energized radiographic equipment in the radiography lab (OE 121).
- All faculty and students are required to wear their dosimeters while operating the fixed and mobile energized radiographic equipment in the radiography laboratory (OE 121).
- The radiographic equipment shall be properly “warmed-up” before use as directed by program faculty.
- When operating the fixed energized radiographic equipment, students shall make exposures only while standing in the shielded area behind the control panel and no student or faculty is to be in the x-ray room while the exposure is being made.
- When operating the mobile energized radiographic equipment, students shall make exposures only while wearing a lead apron and standing at least 6 feet from the radiation source. No student or faculty is to be in the patient room while the exposure is being made.
- All doors must be closed to each radiographic room when making and exposure and no one may enter an x-ray room while exposure is being made.
- No individual shall be exposed to ionizing radiation for training or demonstration purposes in the radiography lab (OE 121). The use of ionizing radiation on humans is strictly regulated and is only permitted with authorization from a licensed physician.
- Students shall use the exposure factors posted by the instructor for each lab session.
- Only those images authorized by an instructor may be exposed to an x-ray manikin in the lab.
- If a problem arises while attempting to make an exposure, the student is to seek help from the instructor.
- If any repeats are necessary, the student is to seek help from the instructor before attempting the repeated exposure.
- Images must be processed according to the criteria specified by the instructor.
- Students shall immediately report any equipment malfunctions to the instructor.
- Persons who are under eighteen years of age are not allowed into the radiography lab while the energized radiographic equipment is being used.
- Any violations of the safety policies of the radiography lab will result in disciplinary action and may result in dismissal from the radiography program.
- All energized radiographic equipment is to be switched off at the mains and locked by faculty when not in use for laboratory sessions.
- Food and drink are not permitted in the x-ray rooms.

Clinical Radiation Safety Rules

Students must perform radiographic examinations in a safe manner according to the ALARA principle utilizing the three cardinal rules (time, distance and shielding) of radiation protection and provide patient and personnel protection from ionizing x-rays by practicing the following:

- Students are required to wear their assigned dosimeters for all hours spent in clinical education. One badge should be worn on the waist and the second on the collar. Care should be taken not to shield the badges by pens, buckles, buttons, tape, etc.
- Any student who reports to their clinical assignment without the proper radiation-monitoring device will not be permitted to use radiation-emitting equipment.

- When operating fixed energized radiographic equipment, students shall make exposures only while standing in the shielded area behind the control panel.
- No one may enter an x-ray room while exposure is being made.
- No individual shall be exposed to ionizing radiation for training or demonstration purposes at the clinical education site.
- Students should never perform a radiographic procedure on any person if it has not been ordered by a physician.
- Exposure factors must produce the minimum amount of exposure needed to obtain a diagnostic radiograph.
- Gonadal shielding and collimation must be used for each exposure according to ALARA.
- All female patients of childbearing age must be asked if they are or could be pregnant before starting the radiographic procedure.
- If a problem arises while attempting to make an exposure at the clinical education site the student is to seek help from the supervising radiologic technologist.
- If any repeats are necessary at the clinical education site the student is to seek help from the supervising radiologic technologist before attempting the repeated exposure.
- Students shall immediately report any equipment malfunctions to the supervising radiologic technologist.

Fluoroscopy Radiation Safety Rules

When assisting for fluoroscopic procedures, the students

- must wear a lead apron and other radiation protection devices, such as a thyroid shield and leaded gloves
- should remain at least two feet away from the x-ray table during fluoroscopy.

Mobile Radiography Radiation Safety Rules

When performing mobile examinations, the student

- wears a lead apron when the exposure is being made
- must stand at least six feet from the x-ray source.
- instruct anyone who is not required to be in the room to leave the area. Anyone who is not able to leave the room (and within 6 feet) must be provided with protective shielding. Inform anyone who left the area when you are finished.
- must announce in an audible voice “x-ray” before making an exposure.

Immobilizing Patients and Image Receptors During an Exposure

- WCC radiography students must **NEVER** hold a patient or an image receptor for any radiographic examination exposure under **ANY** circumstances.
- Pregnant women or minors must never assist in holding a patient or an image receptor during an exposure.
- Individual who assist in holding a patient must be provided appropriate shielding.

Violation of the Radiography program's radiation safety guidelines is a Group I Violation under "Unsafe Practice of the Profession" and could result in the student failing his/her clinical course for that semester!

Radiography Student Magnetic Resonance Imaging (MRI) Safety Policy

Students must be aware of the Magnetic Resonance Imaging (MRI) safety protocols before entering the MRI environment. It is important to remember that even when the MRI scanner is not in use, the magnet is always on, 24 hours per day, 365 days per year. The MRI scanner generates a very strong magnetic field that extends beyond the bore of the magnet in all directions and magnetically susceptible (e.g., ferromagnetic) objects and devices even at a distance can become accelerated into the bore of the magnet with force sufficient enough to cause serious injury or damage to equipment, patient, and any personnel in its path.

Every person that enters the MRI room must be screened for possible contraindications that could affect their health and safety. Metallic fragments embedded in the body such as bullets or shrapnel could change position when exposed to the strong magnetic field and cause injury. The magnetic field of the scanner can also damage an external hearing aid or cause a heart pacemaker and other implanted devices to malfunction. Therefore, students must make safety a top priority while in the MRI environment and strictly follow the MRI safety rules listed below:

- Students must be under the immediate supervision of a qualified MRI technologist while in the MRI environment.
- Students should never enter the MRI scan room without first being cleared by a qualified MRI technologist.
- All students are required to undergo the hospital personnel MR screening process before entering the MRI environment to prevent MRI related accidents or injuries. During the screening process, students are required to disclose if they have any of the following indwellings and/or medical devices: *(Note: this is not an exhaustive list of examples)*
 - Medical implants such as a cardiac pacemaker or implantable cardioverter/defibrillator, neurostimulator, aneurysm clips, penile implant, orthopedic implant, cochlear or otologic implants.
 - Foreign objects that are ferromagnetic (e.g., bullets, shrapnel, BBs) from industrial or military injuries.
 - Medication patches that contain metal foil (i.e. transdermal patch)
- A student will not be permitted to complete an MRI specialty rotation if the hospital personnel MRI screening process indicates that the student is at risk.
- Students in good academic and clinical standing will be permitted to complete a specialty rotation in Magnetic Resonance Imaging (MRI) during the final semester of clinical training if the hospital screening indicates that the student is not at risk.
- The student must remove all metallic (e.g., ferromagnetic) personal belongings and place them in the designated storage area prior to entering the MRI environment. Students should never take the following ferromagnetic objects and/or devices into the MRI scan room: *(Note: this is not an exhaustive list of examples)*
 - Loose metallic objects such as cell phones, pagers, external hearing aid, keys, glasses, jewelry (i.e., watches, necklaces, pins, ring, tie clips), safety pins, paper clips, purses, money clips, coins, pens, pocket knives, nail clippers, tools, clipboards, cigarette lighters.
 - Hairpins, barrettes, and hair extension that are bonded or tied to the hair using metal clips.

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- Credit/bank cards and all other cards with magnetic strips.
- Any article of clothing that has a metallic zipper, buttons, snaps, hooks, belt buck, or underwires.
- Steel-toed boots/shoes.
- Only medical devices and equipment that are MRI compatible (e.g., anything that does not contain iron) are permitted in the MRI scan room. All patient transport devices (e.g., wheelchairs, gurneys), oxygen tanks, anesthesia/ventilation carts, IV pumps, pulse oximeters, etc., must be MRI safe.
- Students must never assume an object or device is MRI compatible. If the compatibility of an object or device is in question do not take it in the MRI scan room. Ask a qualified MRI technologist to confirm the safety of the object or device.
- Students must strictly adhere to all MRI departmental Zone regulations:
 - Zone 1: This region includes all of the areas outside of the MR environment, which are freely accessible to the general public (e.g., reception and waiting area, and the corridors and entrances just outside the MR environment).
 - Zone 2: This area is an interface between Zone 1 (free access) and Zone 3 (strictly controlled) where patient interview and preparation is performed.
 - Zone 3: This area is under the strict control of qualified MRI personnel. Zone 3 includes the MRI control area and may also include supply and equipment storage areas and computer room. Access to Zone 3 is usually physically restricted from the general public and other healthcare workers through the use of a locking system (e.g., key lock, electronic access control).
 - Zone 4: This area is the actual MR scanner room, which contains the magnet. Access to this Zone is strictly limited to qualified MRI personnel, patients undergoing scans and appropriately screened healthcare workers. Zone 4 is clearly marked by a sign stating, “The Magnet is Always On.” No one enters Zone 4 without the approval of a qualified MRI technologist.
- Pregnant students are permitted in and around the MR environment throughout all stages of their pregnancy but they are not allowed to remain in the MR scan room during the actual scanning.

Radiographic Markers

Students are required to purchase and use their own radiographic markers when practicing in the energized labs on campus or performing procedures in the clinical setting. The program director will provide information for ordering radiographic markers. It is recommended that two to three sets of markers be purchased by the student; one set to be kept in the radiography lab - the other at the clinical site.

Radiography Classroom/Laboratory

The Radiography class/room laboratory is located in the Occupational Educational (OE) building in room 121.

Radiography Club

The Radiography Club is a sponsored club at WCC. The goal of the club is to It is a great way to get involved in professional activities. A radiography faculty member serves as the advisor and will work with the class officers to schedule activities. The club members do many fundraising activities throughout the year to obtain funding to support

Readmission

The Radiography program allows readmission of a student previously enrolled if the student left in good standing. Students who did not leave in good standing (were suspended) and who have been out of registration for more than one year also must reapply for the program.

A student may be readmitted one time only. Readmission will be granted on a space availability basis only. Students must meet all current program eligibility criteria for admission to the Radiography Program. The program faculty reserve the right to refuse readmission to the program based on the student's academic, clinical or profession performance.

Smoking

Smoking (including tobacco cigarettes, pipes, cigars, electronic cigarettes, vapor cigarettes, herbal cigarettes, or any device emitting smoke or vapor) is prohibited in any area (indoor and outdoor) of the WCC campus and at clinical education sites. Smoking marijuana (including for medicinal purposes) is also prohibited in any area of campus and at clinical education sites. This policy applies to parking lots, walkways, sidewalks, sports venues, and vehicles parked or operated on College property.

Social Media

Students in the WCC Radiography Program can use social media to create a dialogue about issues that affect their training and education, and the program welcomes this as part of that dialogue anyone might have with any interest in issues affecting the education of radiographers. However, the program reserve the right to take appropriate actions against dialogue students who fail to observe our guidelines respecting the proper use of our social media sites as outlined below:

1. Students in the WCC Radiography Program accept responsibility for the content they post on social media sites and will not impersonate, mislead, or purposely obscure the College, Radiography Program, or their clinical education site's identity when using social media. Social media is about enhancing this entity's credibility and reputation. The Radiography Program also expects participants in dialogue on social media sites to refrain from impersonating, misleading or purposely obscuring their identities.
2. The WCC Radiography Program protects its own intellectual property and respects the intellectual property of others. Therefore, students will not intentionally use copyrighted material without permission or use others' company or business name, logo or other trademark-protected materials in a manner that may mislead or confuse others with regard to the College or clinical education site's brand or business affiliation. The WCC Radiography Program will respond to clear and complete notices of alleged copyright or trademark infringement.
3. The WCC Radiography Program recognizes the importance of maintaining the confidentiality of an individual's personal and medical data. Therefore, the program expects that students will not include, reference or reveal such personal data in dialogue in their social media postings.
4. The WCC Radiography Program accepts that there are differences and differing opinions about health care issues affecting the field of medical imaging and therefore strives to maintain a courteous, polite and professional dialogue about these issues even when we

might disagree with opinions expressed by others. The program expects that students in dialogue on social media sites also will accept differences and differing opinions by responding in a respectful way when they disagree or have a difference of opinion.

5. Students in the WCC Radiography Program will not use social media to bully, intimidate, or threaten harm or violence to anyone, including threats directed to the program faculty or clinical education site staff.
6. Students in the WCC Radiography Program will not use social media to defame the reputation of others, whether they be individuals, groups of individuals, organization, or business entities.
7. Students in the WCC Radiography Program will not publish or post profanity or obscene or pornographic communication on social media, whether in a user profile or background or in a response, comment, or message posting or response.
8. Students in the WCC Radiography Program will properly use the technology/capabilities as an effective communications tool and will not engage in spam or another misuse of communications technologies/capabilities.

The WCC Radiography Program does not tolerate social media dialogue that does not conform to reasonable standards of civility outlined above, and will, therefore, take appropriate steps to ensure that students' social media posts conform to such behavioral standards. Such steps may include clinical probation, grade reduction, or dismissal from the radiography program.

Student Employment

The curriculum content and time required for completion of the radiography program is such that any full-time employment by the student is virtually impossible and strongly discouraged. The faculty realizes that many students will be employed part-time while completing the program. Lack of attendance due to part-time employment may negatively affect the student's ability to be successful in the program. If a student is employed in some capacity by the CEC they are assigned to or if the student is employed as a part-time/student radiographer by the affiliated site, then this employment must take place outside of the designed weekly program clinical hours. The hours accrued during a student's part-time work cannot be counted toward their clinical time. Nor can students acquire clinical competencies during schedule work hours. All designated program clinical hours are unpaid and all clinical competencies must be obtained during scheduled clinical hours.

Student Physical Examination

Applicants accepted for admission are required to submit a medical history and physical examination information on a form that has been completed and signed by a licensed physician prior to matriculation.

Syllabus

A course syllabus will be given to each student for all didactic and clinical radiography courses. Students are responsible for knowing, understanding, and complying with the course schedule and the policies and procedures in the syllabi from all radiography courses in which they are enrolled.

Transfer Students

Credits are typically eligible for transfer if they are received from an accredited institution and are in a subject area that falls within the general education requirements for the Radiography degree. Only courses with a grade of 2.0 or higher on a 4.0 scale will be accepted in transfer. Students planning to transfer to WCC must have official transcripts mailed directly to the Washtenaw Community College Student Records Office from an issuing institution or sealed if issued to the student. For more information on transferring credits go to <http://www.wccnet.edu/services/transferresources/>

Transferring radiography Courses

Radiography students requesting a transfer to the WCC Radiography Program must submit the following documentation to the Radiography Program Director:

- A GPA of no less than 2.0 in all courses related to the Radiography degree with a minimum of a “C” in each course.
- A copy of the radiography clinical syllabi, evaluations and completed competency exams.
- A copy of a current CPR card.
- A copy of current health records and immunizations.

The transfer student will be subject to all WCC Radiography Program policies and procedures and must meet all program completion/graduation requirements.

Transportation

Students are responsible for their own transportation to and from class and to and from their assigned clinical education site. Whenever possible, students are encouraged to carpool to their clinical site to save time, fuel, and wear on his/her car.

Vacation Time

The students are allotted personal vacation time in accordance with the Washtenaw Community College academic calendar as it relates to holidays and breaks between or during semesters. Students are not permitted to take vacation time during the scheduled classes/labs and clinical assignments. Students who are found to be missing clinical time for a vacation will have their clinical course grade reduced by one letter grade for every eight hours missed and will be subject to other Group II violations.

Withdrawal

Program Withdrawal

Students may need to withdraw from the Radiography program for personal reasons (i.e, personal health, family emergency) or due to the student’s academic, clinical or professional performance. All students who withdraw from the Radiography program must return their radiation dosimeters, ID badges, and meet with the program director for a program exit meeting.

Course Withdrawal

Students who withdraw from the Radiography program are responsible for withdrawing from their radiography courses. The College’s official course withdrawal policy is located at

<http://www.wccnet.edu/studentconnection/registration/drop/>. The program faculty reserve the right to require the withdrawal of any student from the program based on the student’s academic, clinical or professional performance.

Radiation Safety Agreement

**Washtenaw Community College
Radiography Program
Radiation Safety Policies**

Student Signature Sheet

I, _____ have received and read the “Radiation Safety” section of this handbook. I agree to abide by the radiation safety rules and regulations throughout the program. I also understand that I must exchange my badges promptly when requested and turn in my last set of badges at the end of the program.

Signature:

Date: _____

Magnetic Resonance Imaging (MRI) Radiography Student Screening Form

Certain implants, devices, or objects may pose a hazard to individuals in close proximity to the magnet of an MRI scanner. To ensure your safety in the MRI environment, it is necessary that you answer the following questions.

Have you had an injury to the eye involving a metallic object or fragment (e.g., metallic slivers, shavings, foreign body, etc.)? Yes No

Have you ever been injured by a metallic object or foreign body (e.g., BB, bullet, shrapnel, etc.)? Yes No

Do you have a cochlear, otologic, or an other ear implant (including hearing aid)? Yes No

Please indicate if you currently have or ever had any of the following:

- | | | | | | |
|---|------------------------------|-----------------------------|------------------------------------|------------------------------|-----------------------------|
| Pacemaker, wires or defibrillator | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Eyelid or body tattoo | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Aneurysm clip(s) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Eye spring or wire | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Implanted cardioverter defibrillator | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Body piercing jewelry | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Electrical stimulator for nerves or bone | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Implanted catheter, tube or shunt | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Magnetically activated implant/device | <input type="checkbox"/> Yes | <input type="checkbox"/> No | False teeth, retainers, or braces | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Neurotransmitter | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Intrauterine device or diaphragm | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Spinal cord stimulator | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Surgical clips, staples, wires | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Bone growth/bone fusion stimulator | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Radiation seeds or implants | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Insulin or other infusion pump | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Medical patch (transdermal) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Coil, filter, wire, or stent in blood vessel | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Wire mesh implant | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Any type of prosthesis (e.g., eye, penile) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Tissue expander (e.g., breast) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Artificial or prosthetic limb | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Shunt (spinal or intraventricular) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Heart valve prosthesis | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Wig or hair implants | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Orthopedic hardware (plates, screws, pins, rods, wires, etc.) | <input type="checkbox"/> Yes | <input type="checkbox"/> No | | | |

If you have answered yes to any of the above questions, please explain:

I have read and understand the WCC Radiography MRI Safety Policy and had the opportunity to ask questions.

Student Name
(Print): _____

Student Signature: _____ Date: _____

Radiography Handbook Agreement

Washtenaw Community College
Radiography Program

Clinical Education
Program Handbook

Handbook Agreement

The handbook agreement page is to be signed by all students before entering into clinical training. This agreement states that while the student is in clinical practice, he/she will abide by the rules and policies of the sponsoring affiliate and the Radiography Program.

I _____ have been instructed on the contents of the Radiography Handbook for the Student Radiographer that includes policies governing clinical academic achievement, attendance, personal appearance, rules and code of conduct. I understand and accept these policies as stated in the Radiography Handbook for the Student Radiographer and will abide by all rules and regulations of Washtenaw Community College, the radiography program and affiliating clinical education centers. I understand that if I violate these policies and regulations I will be disciplined according to stated disciplinary actions

I also understand the importance of confidentiality in the medical profession and will not disclose any information regarding a patient, fellow student, or hospital personnel without proper authorization.

SIGNATURE _____

DATE _____

Glossary of Terms

Assist (Radiographic Procedure).....	The student aids the radiographer in performing a radiographic examination.
Category	A series of related radiographic examinations that exemplify an area of the human body, i.e., upper extremity.
Clinical Deficiency.....	The inability to perform at an expected or acceptable level of competency in the clinical setting.
Competency.....	The ability to function within a realm of limited supervision and assume those duties and responsibilities as set forth in the course and clinical objectives.
Competency Evaluation.....	The procedure by which a student's performance and the resulting image is evaluated. The minimum acceptable level of competency is 95%.
Direct Supervision.....	Supervision provided by a qualified radiographer in the following manner: Supervision of a student during the procedure Evaluates the patient's condition in relation to the student's knowledge Review and approve procedure in relation to the student's competency The radiographer is present during student performance of any repeat of unsatisfactory radiographs
Indirect Supervision.....	Supervision provided by a qualified radiographer immediately available to assist a student regardless of competency level. The radiographer should be adjacent to the room or location where a radiographic procedure is being performed.
Observe (Radiographic Procedure).....	The student observes all aspects of a radiographic examination to acquire the skills needed to perform the procedure in the future.
Qualified Radiographer.	An individual certified by the American Registry of Radiologic Technologists and who is in good standing with the sponsoring institution and certification agency.
Radiographic Examination	A series of radiographic exposures of an anatomical part sufficient to permit diagnostic evaluation of the part.
Simulation	The student shall perform the examination on a live subject (not a patient) and simulate the exposure. A radiograph of the area in question shall be used in the Image Performance section of the evaluation sheet. The student shall critique the image.
Solo	

(Radiographic Procedure)..... The student performs every aspect of the procedure in the same professional manner as a staff radiographer. The student receives no aid from the supervising radiographer unless needed.

Course Objectives and Requirements as Stated in Course Syllabi

(Note: Examples only—your total hours and days will be different)

Clinical Education RAD 110

RAD 110 - Clinical Education

2 Credit Hours

Prerequisite: RAD 101

Corequisite: None

15 weeks, 16 hours per week (0-16) 232 total hours 29 Days

Course Description:

This course provides structured clinical experience in the application of knowledge and skill in positioning the upper extremity, chest, and abdomen; and demonstration of knowledge concerning professional ethics, courtesy and empathy in handling patients, imaging via CR or DR equipment, technique selection, image archiving, and radiographic equipment manipulation.

Performance Objectives:

I. Radiography

The student will be able to:

1. Take radiographs of the upper extremity, chest, and abdomen.
2. Provide maximum radiation protection for patient, self, and personnel.

II. Radiographic Simulation Exercises - Equipment Operations

The student will be tested on his/her ability to:

1. Identify the X-ray tube locking system.
2. Maneuver X-ray tube into detent and other locking positions.
3. Place proper angulation on X-ray tube according to the procedure.
4. Place X-ray tube at proper SID per procedure and/or upon request.
5. Select appropriate imaging plate or field size and orientation upon request.
6. Properly position imaging plate in the bucky tray.
7. Align X-ray tube to table bucky and/or upright bucky.
8. Identify console setting for manual technique and photo time setting per procedure.
9. Explain the proper procedure for making the exposure.

III. Radiographic Simulation Exercises - Image Processing

The student will be tested on his/her ability to:

1. Correctly identify the type and size of the imaging plate used per procedure.
2. Correctly identify imaging plate or field size upon request.
3. Demonstrate the appropriate method for loading and unloading an imaging plate into an image reader.
4. Correctly annotate or transfer patient information onto an image.
5. Demonstrate an understanding of image processing for computed radiography or digital radiography.
6. Correctly feed an imaging plate into an image reader.

7. Demonstrate knowledge of imaging plate storage and image archiving.
8. Demonstrate knowledge of imaging plate cleaning techniques.
9. Demonstrate basic knowledge of image reader operations.
10. Demonstrate knowledge of daily image reader maintenance.

IV. Radiographic Simulation Exercise - Patient Care

The student will be tested on his/her ability to:

1. Explain the proper method for identifying patient before the procedure.
2. Explain the importance of therapeutic communication.
3. Assess patient mobility prior to the procedure.
4. Demonstrate methods for transporting patients in a wheelchair and stretcher.
5. Assist patient from wheelchair and stretcher correctly.
6. Demonstrate knowledge of locking mechanism on wheelchair and stretcher.
7. Demonstrate correct use of I.V. pole.
8. Demonstrate placing a patient on/off the table per transportation method.

Required Text:

Textbook of Radiographic Positioning and Related Anatomy, Kenneth L. Bontrager, Seventh Edition, The C.V. Mosby Company.

Optional Texts:

Pocket Guide to Radiography, 4th edition, Phillip W. Ballinger and Eugene Frank, Mosbey 2003.

Bontrager's Pocket Atlas-Handbook of Radiographic Positioning and Techniques, 4th edition, Kenneth L. Bontrager, Mosbey, 2002.

Semester Requirements and Evaluation Procedure:

- | | |
|------------------------------------|--------------------|
| 1. Self-Study Assignment | 10% of final grade |
| 2. Competency Requirement | 50% of final grade |
| Chest | |
| Abdomen Upright or KUB | |
| One Upper Extremity | |
| 3. Clinical Performance Evaluation | 20% of final grade |
| 4. Simulation Exercise | 20% of final grade |

Note: Self-Study Assignments submitted after the due date will receive a zero (0) grade and all written assignments must be submitted or the student will receive an incomplete (I) grade for the clinical course until the assignment is submitted. If the assignment is not submitted by the end of the following semester, then the incomplete grade from the prior clinical course will be changed to a failing grade (F). Please refer to the Clinical Handbook for other policies regarding Competency Requirements, Clinical Performance Evaluations, and Simulation Exercises.

**Clinical Education
RAD 120**

RAD 120 - Clinical Education

2 Credit Hours

Prerequisite: RAD 110

Corequisite: RAD 123

15 weeks, 16 hours per week (0-16) 232 total hours 29 Days

Course Description:

This course provides structured clinical experience in the application of knowledge and skill in positioning the lower extremity, spinal column, bony thorax; and demonstration of knowledge concerning professional ethics, courtesy, and empathy in handling patients, film processing and radiographic equipment.

Performance Objectives:

I. Radiography

The student will be able to:

1. Take radiographs of the lower extremity, spinal column, and bony thorax.
2. Provide maximum radiation protection for patient, self, and personnel.

II Record Maintenance

The student will be able to:

1. Identify and record the appropriate radiographic procedures for data entry.
2. Enter clinical performance data on a weekly basis for record maintenance.
3. Interpret record maintenance printouts for clinical performance.

III. Radiographic Simulation Exercises - Equipment Operations

The student will be tested on his/her ability to:

1. Identify the X-ray tube locking system.
2. Maneuver X-ray tube into detent and other locking positions.
3. Place proper angulation on X-ray tube according to the procedure.
4. Place X-ray tube at proper focal film distance per procedure and/or upon request.
5. Select appropriate film size upon request.
6. Properly position cassette in the bucky tray.
7. Align X-ray tube to table bucky and/or upright bucky.
8. Identify the console setting for manual technique and AEC per procedure.
9. Explain the proper procedure for making the exposure.

IV. Radiographic Simulation Exercises - Image Processing

The student will be tested on his/her ability to:

1. Correctly identify the type and size of the imaging plate used per procedure.
2. Correctly identify imaging plate or field size upon request.
3. Demonstrate the appropriate method for loading and unloading an imaging plate into an image reader.

4. Correctly annotate or transfer patient information onto an image.
5. Demonstrate an understanding of image processing for computed radiography or digital radiography.
6. Correctly feed an imaging plate into an image reader.
7. Demonstrate knowledge of imaging plate storage and image archiving.
8. Demonstrate knowledge of imaging plate cleaning techniques.
9. Demonstrate basic knowledge of image reader operations.
10. Demonstrate knowledge of daily image reader maintenance.

V. Radiographic Simulation Exercise - Patient Care

The student will be tested on his/her ability to:

1. Explain the proper method for identifying patient before the procedure.
2. Explain the importance of therapeutic communication.
3. Assess patient mobility prior to the procedure.
4. Demonstrate methods for transporting patients in a wheelchair and stretcher.
5. Assist patient from wheelchair and stretcher correctly.
6. Demonstrate knowledge of locking mechanism on wheelchair and stretcher.
7. Demonstrate correct use of I.V. pole.
8. Demonstrate methods for placing the patient on/off the table.

Required Text:

Textbook of Radiographic Positioning and Related Anatomy, Kenneth L. Bontrager, Seventh Edition, The C.V. Mosby Company.

Optional Texts:

Bontrager's Pocket Atlas-Handbook of Radiographic Positioning and Techniques, 4th edition, Kenneth L. Bontrager, Mosbey, 2002.

Semester Requirements and Evaluation Procedure:

1. Self-Study Assignment	10% of final grade
2. Competency Requirement	50% of final grade
One Contrast Study	
One Spine Procedure	
Five Extremities - Upper or Lower	
Portable Exam (Optional)	
3. Clinical Performance Evaluation	20% of final grade
4. Simulation Exercise	20% of final grade

Note: Self-Study Assignments submitted after the due date will receive a zero (0) grade and all written assignments must be submitted or the student will receive an incomplete (I) grade for the clinical course until the assignment is submitted. If the assignment is not submitted by the end of the following semester, then the incomplete grade from the prior clinical course will be changed to a failing grade (F). Please refer to the Clinical Handbook for other policies regarding Competency Requirements, Clinical Performance Evaluations, and Simulation Exercises.

Clinical Education

RAD 150

RAD 150 Clinical Education

4 Credit Hours

Prerequisite: RAD 120

Corequisite: None

32 hours per week (0-40); 376 total hours; 47 days

Course Description:

This course provides structured clinical experience in the application of knowledge and skills in positioning the upper extremity, chest and abdomen, trunk, spine, and selected contrast studies.

Performance Objectives:

I. Radiography

The student will be able to:

1. Take radiographs of the upper extremities and lower extremities, chest abdomen, trunk, spine and selected contrast studies to include UGI, Lower GI, gallbladder, and urinary tract.
2. Provide maximum radiation protection for patient, self, and personnel.

II Record Maintenance

The student will be able to:

1. Identify and record the appropriate radiographic procedures for data entry.
2. Enter clinical performance data on a weekly basis for record maintenance.
3. Interpret record maintenance printouts for clinical performance.

III. General Radiography

The student will be able to:

1. Perform assigned self-study project.

IV. Practical Skills Demonstration

The student will be able to:

1. Prepare physical facilities for a radiographic procedure.
2. Briefly explain the procedure in a clear, organized and effective manner.
3. Select proper cassette/IP size and orientation.
4. Use equipment in an appropriate manner.
5. Use appropriate accessories for procedure.
6. Demonstrate knowledge of radiographic positions found in the procedure manual.
7. Demonstrate appropriate centering for CR.
8. Use correct tube angulation for appropriate procedures.

Texts:

Textbook of Radiography Positioning and Related Anatomy, Kenneth L. Bontrager, 6th Ed., C.V. Mosby, St. Louis.

Requirements and Evaluation Procedure:

- | | | |
|----|--|--------------------|
| 1. | Self Study Assignment | 10% of final grade |
| 2. | Competency Requirement - Twelve Procedures | 50% of final grade |
| 3. | Clinical Performance Evaluation | 20% of final grade |
| 4. | Practical Skill Clearance | 20% of final grade |

Note: Self-Study Assignments completed/submitted after the due date will receive a zero (0) grade and all assignments must be completed/submitted or the student will receive an incomplete (I) grade for the clinical course until the assignment is completed/submitted. If the assignment is not completed/submitted by the end of the following semester, then the incomplete grade from the prior clinical course will be changed to a failing grade (F). Please refer to the Clinical Handbook for other policies regarding Competency Requirements, Clinical Performance Evaluations, and Simulation Exercises.

Clinical Education

RAD 217

RAD 217 Clinical Education

2 Credit Hours

Prerequisite: RAD 150

24 hours per week (0-24) 336 total hours 42 days

Course Description:

This course provides structured clinical experience in the application of knowledge and skills in positioning the upper & lower extremities, chest, and abdomen, spinal column, contrast studies, and skull. Students will demonstrate their knowledge in the design and operational characteristics of equipment and accessories in diagnostic radiography. Students will participate in surgical procedures which require diagnostic imaging and demonstrate competency in operating portable radiography units.

Performance Objectives:

I. Radiography

The student will be able to:

1. Take radiographs of the upper extremity and lower extremities, chest, abdomen, trunk, spine, skull and selected contrast studies to include UGI, lower GI, gallbladder, and urinary tract.
2. Provide maximum radiation protection for patient, self, and personnel.

Students assigned to off-shift rotations will be able to:

1. Participate in departmental protocols for that particular rotation.
2. Demonstrate proficiency in-room preparation for procedures routinely performed on that shift.
3. Demonstrate good patient care skills during the rotation.
4. Accurately complete departmental documentation associated with the shift

II. General Radiography

The student will be able to:

1. Perform a self-study assignment.

III. Radiographic Simulation Exercises - Skull Positioning

The student will be tested on his/her ability to:

1. Prepare physical facilities for a radiographic procedure of the skull.
2. Briefly explain the procedure in a clear, organized and effective manner.
3. Select the proper imaging plate or field size.
4. Uses equipment in an appropriate manner.
5. Uses appropriate accessories for a procedure.

6. Demonstrates knowledge of radiographic positions from the procedure manual of the clinical site.
7. Demonstrate appropriate centering for CR.
8. Use correct tube angulation for appropriate procedures.

Texts:

Textbook of Radiographic Positioning and Related Anatomy, Kenneth L. Bontrager, Seventh Edition, The C.V. Mosby Company.

Optional Texts:

Bontrager's Pocket Atlas-Handbook of Radiographic Positioning and Techniques, 4th edition, Kenneth L. Bontrager, Mosbey, 2002.

Semester Requirements and Evaluation Procedure:

- | | |
|--|--------------------|
| 1. Self-Study Assignment | 20% of final grade |
| 2. Competency Requirement - Ten Competencies | 40% of final grade |
| For clinical courses RAD 217, RAD 225, and RAD 240 student radiographers must complete all mandatory competencies (refer to Student Handbook). | |
| 3. Clinical Performance Evaluation | 20% of final grade |
| 4. Simulation Exercise | 20% of final grade |

***Note Students assigned to off-shift rotations must complete four (4) competencies within the 80-hour requirement. Refer to your clinical handbook.**

Note: Self-Study Assignments submitted after the due date will receive a zero (0) grade and all written assignments must be submitted or the student will receive an incomplete (I) grade for the clinical course until the assignment is submitted. If the assignment is not submitted by the end of the following semester, then the incomplete grade from the prior clinical course will be changed to a failing grade (F). Please refer to the Clinical Handbook for other policies regarding Competency Requirements, Clinical Performance Evaluations, and Simulation Exercises.

Clinical Education

RAD 225

RAD 225 Clinical Education

3 Credit Hours

Prerequisite: RAD 217

Corequisite: RAD 200 - RAD 135

24 hours per week (0-24) 336 total hours 42 days

Course Description:

This course provides structured clinical experience in the application of knowledge and skills in positioning the upper & lower extremities, chest, and abdomen, spinal column, contrast studies, skull, surgical procedures, and portable radiography. Students will demonstrate their knowledge in the design and operational characteristics of equipment and accessories in diagnostic radiography.

Performance Objectives:

I. Radiography

The student will be able to:

1. Take radiographs of the upper extremity and lower extremities, chest, abdomen, trunk, spine, skull and selected contrast studies to include UGI, lower GI, gallbladder, and urinary tract.
2. Provide maximum radiation protection for patient, self, and personnel. Students assigned to off-shift rotations will be able to:
4. Participate in departmental protocols for that particular rotation.
5. Demonstrate proficiency in-room preparation for procedures routinely performed.
6. Demonstrate good patient care skills during the rotation.
7. Accurately complete departmental documentation associated with the shift.

II. General Radiography

The student will be able to:

1. Perform a self-study assignment.

Texts

Textbook of Radiographic Positioning and Related Anatomy, Kenneth L. Bontrager, Sixth Edition, The C.V. Mosby Company.

Semester Requirements and Evaluation Procedure:

- | | |
|--|--------------------|
| 1. Self Study Assignment | 10% of final grade |
| 2. Competency Requirement: Ten Competencies | 50% of final grade |
| 3. Clinical Performance Evaluation | 20% of final grade |
| 4. Simulation Exercise | 20% of final grade |

Note: Self-Study Assignments submitted after the due date will receive a zero (0) grade and all written assignments must be submitted or the student will receive an incomplete (I) grade for the clinical course until the assignment is submitted. If the assignment is not submitted by the end of the following semester, then the incomplete grade from the prior clinical course will be changed to a failing grade (F). Please refer to the Clinical Handbook for other policies regarding Competency Requirements and Clinical Performance Evaluations.

**Clinical Education
RAD 240**

RAD 240 Clinical Education

3 Credit Hours

Prerequisite: RAD 225

Corequisite: None

32 hours per week (0-32) 224 total hours 28 days

Course Description:

This course provides structured clinical experience in the application of knowledge and skills in positioning the upper extremity, chest and abdomen, trunk, spine, skull and selected contrast studies, and the demonstration of knowledge in the design and operational characteristics of equipment and accessories in diagnostic radiography.

Performance Objectives:

I. Radiography

The student will be able to:

1. Take radiographs of the upper extremity and lower extremities, chest, abdomen, trunk, spine, skull and selected contrast studies to include UGI, lower GI, gallbladder, and urinary tract.
2. Provide maximum radiation protection for patient, self, and personnel.

II. General Radiography

The student will be able to:

1. Perform a self-study assignment.

III. Radiographic Procedures Evaluation Requirements

1. By the end, of course, RAD 240, the student will have successfully completed all mandatory radiographic procedure evaluations. Each procedure must be performed solo a minimum of five times before an evaluation is completed.
2. Each student must have participated in a minimum of 100 non-duplicate radiographic procedures and documentation must be indicated on the student's record maintenance system.

Text:

Textbook of Radiographic Positioning and Related Anatomy, Kenneth L. Bontrager, Sixth Edition, The C.V. Mosby Company.

Semester Requirements and Evaluation Procedure:

- | | |
|---|--|
| 1. Completion of 100 Non-Duplicates Exams | 20% of final grade |
| 2. Competency Requirement | 60% of final grade |
| *Ten competencies not previously received | |
| 3. Clinical Performance Evaluation | 20% of final grade |
| 4. Self-study Assignment | Pass course or Incomplete until the requirement is met |

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WCC Radiography Program Handbook 2019 – 2021

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Appendix A: HIPAA Basics

HIPAA Basics Overview

The Health Insurance Portability and Accountability Act of 1996 (HIPAA) was enacted as part of a broad Congressional attempt at incremental healthcare reform. Signed into law on August 21, 1996, by the Clinton administration, HIPAA is considered to be the most significant body of health-care legislation to be enacted since Medicare. HIPAA is made up of several provisions designed to protect the healthcare consumer in a number of ways – many of which are still not in effect. At a high level, HIPAA legislation includes the following:

Title I: Insurance portability – helping workers and their families maintain insurance coverage when they change or lose a job. Provides continuity and portability of health benefits to people in-between jobs.

Title II: Administrative simplification – providing legislation around privacy, security and electronic data. Ensures the security and privacy of individual health information.

Title III: Tax-related provisions – allowing employees to set up medical savings accounts. Reduces administrative expenses in the healthcare system; administrative costs have been estimated to account for nearly 25% of healthcare costs.

Title IV: Enforcement of group health care requirements. Provides uniform standards for electronic health information transactions.

Title V: Revenue offsets – for company-based life insurance plans. Provide measures to combat fraud and abuse in health insurance and health care delivery.

Many People Have Access to Your Health Information

Imagine you were admitted to the hospital for a minor procedure. After three days and two nights, you are discharged. During that time, how many people had access to your health records? Ten? Twenty? Fifty? According to the American Health Information Management Association, an average of 150 people will have access to your private health information during that time period. HIPAA ensures that those who have access to your health information are authorized and they will use it appropriately.

HIPAA has detailed rules regarding:

- When you need to have a person’s written or oral permission to share health information.
- When you should give a person a written privacy notice that tells the person how your agency will deal with his/her clinical information.
- What your agency has to do in order to implement HIPAA.
- How to avoid sharing health information with co-workers who may not have a “need to know.”
- How to avoid discussing health information in public areas, or in telephone conversations that can be easily overheard by others.
- Keeping and protecting written health information in the work environment from the eyes of others who do not need the information in order to perform their assigned job.
- Making sure that casual visitors can’t wander into areas in which clinical or billing information is kept.
- Recognizing when health information about a person can be shared without the person’s permission, and when written or oral permission of the person is required.

- Making sure that if you have access to confidential or private information about a person, you follow all policies or procedures for safeguarding the confidentiality of that information.

Who is Covered

HIPAA applies to three fundamental types of organizations that collectively are referred to as Covered Entities, as they must comply with HIPAA. These Covered Entities are:

- **Health Plans** – Individuals or groups that provide or pay for healthcare, such as insurance companies, health maintenance organizations and Medicare and Medicaid programs.
- **Health Care Clearinghouses** – Organizations that facilitate the processing of health information such as billing services or transcription services.
- **Health Care Providers** – Individuals, such as physicians, dentists, pharmacists, and larger organizations, such as hospitals, are Covered Entities when they electronically transfer patient information.

The following are specific examples of Covered Entities:

- Hospitals and clinics
- Nursing homes
- Home health agencies
- Most physicians, pharmacists, and dentists
- Ambulance services
- Managed care organizations
- Some local health and social services departments
- Laboratories
- State Medicaid programs

Who is Not Covered – Examples

The following are NOT Covered Entities. Even though these agencies are involved with healthcare, since they do NOT pay for healthcare, provide healthcare, or process healthcare information, they are not considered Covered Entities: Workers compensation programs, Government programs that fund health care through grants, and Government oversight agencies.

Protected Health Information

The HIPAA privacy rule covers and sets standards for the collecting, sharing and storing of a person's Protected Health Information, or PHI, for short. PHI is information that:

- Relates to past, present or future physical or mental health or condition, payments, and provisions about healthcare.
- Identifies the individual in a personal way.
- Provides a reasonable basis to be used to identify the individual.
- Is created or received by a Covered Entity.

How Can You Determine a Covered Entity?

Does the person, business, or agency furnish, bill or receive payment for health care in the normal course of business? If no, then the person, agency or business is not a covered healthcare provider.

Are Parent Centers Covered Entities?

No, but they may receive private health information about a child from a family, school or health care provider and **they have an obligation to protect that information and the privacy of the families they serve.** (Other PTIs or CPRCs could be considered a “Business Associate” if they have contracted to serve as case managers or similar provider.)

Parent Centers should observe the following privacy guidelines:

- Do not share any information that was shared by the family unless the family has given permission.
- Secure documents with private information in locked cabinets or offices.
- Avoid using family names in hallways or in open areas, if discussing an individual family situation, go to a conference room.
- Remind professionals, when necessary to keep their voices down or request a private area to discuss personal information.

Appendix B: Example of Performance Evaluation Form

Upcoming Evaluations

8/29/18, 3:04 PM

Subject: _____
Site: _____

Clinical Evaluation RAD 110

Any item scored 1 or 2 will require a comment to be added. To add a comment, click on the comment bubble to the right of the line item.

Grading Scale:

- (1) **Unsatisfactory:** Does not meet expectations for level of education, significant improvement needed
- (2) **Needs Improvement:** Usually meets expectations for level of education
- (3) **Satisfactory:** Meets expectations for level of education
- (4) **Exceeds:** Consistently exceeds expectations for level of education

Patient Communication

- The student demonstrates the ability to communicate with the patient in a professional manner 1 2 3 4
- The student demonstrates concern for patients' well-being including comfort and modesty 1 2 3 4
- Explains procedure in language the patient can understand to achieve proper positioning 1 2 3 4
- Demonstrates cultural competency and sensitivity in all interactions 1 2 3 4
- Follows department procedures regarding patient confidentiality (HIPAA) 1 2 3 4

Patient Safety and Welfare

- Demonstrates an understanding of promoting patient care; assists technologist as much as possible during procedures 1 2 3 4
- Demonstrates proper technique for transporting patients to exam table 1 2 3 4
- Awareness of physical condition of patients and limitations that may be present 1 2 3 4
- Acts in a manner that supports the importance of importance of patient safety 1 2 3 4

Radiation Safety

- The student understands the importance of radiation protection and uses all methods available to protect the patient, self and others from unnecessary radiation exposure 1 2 3 4
- Consistently asks and documents pregnancy status when applicable 1 2 3 4
- Demonstrates appropriate collimation 1 2 3 4
- Takes repeat images only under direct supervision 1 2 3 4

Technical Aptitude

- Has a good understanding of the image acquisition process using various equipment in the facility and needs minimal assistance 1 2 3 4
- Demonstrates knowledge of exam requisitions and department protocols 1 2 3 4
- Demonstrates proper manipulation of radiographic / fluoroscopic / portable equipment including tube, SID, table movement / locks / tube / bucky alignment 1 2 3 4

Accountability

Upcoming Evaluations

8/29/18, 3:04 PM

- The student arrives on time consistently. Returns from lunch / break in a timely manner 1 2 3 4
- Student uses the designated time in / time out system appropriately 1 2 3 4
- Student is always readily available (is not often missing in action) 1 2 3 4
- Student places a high priority on his / her clinical time and is not absent frequently 1 2 3 4
- The student shows initiative and is eager to learn new procedures and seeks continuous improvement 1 2 3 4
- Takes ownership of any mistakes made and acts proactively 1 2 3 4

Personal Appearance

- Student comes dressed appropriately in uniform 1 2 3 4
- Neat and clean in appearance 1 2 3 4
- Maintains good personal hygiene 1 2 3 4
- Portrays a professional image in appearance and communication 1 2 3 4
- Follows any and all hospital policies regarding hair / nails / tattoos / piercings 1 2 3 4

Interpersonal Relationships

- Student communicates well with staff members, peers, and physicians in an effort to promote a productive and respectful environment 1 2 3 4
- Student demonstrates a spirit of cooperation and functions well as a team member 1 2 3 4
- Student follows directions well and asks appropriate questions when necessary 1 2 3 4

Self-Improvement

- The student uses constructive criticism as a means to improve clinical performance 1 2 3 4
- The student seeks out ways to improve whether by practice and repetition or advice / education from a technologist or both 1 2 3 4
- The student respects the technologists and their knowledge and experience and defers to them 1 2 3 4

Comments:

Student Signature: Student may add signature by attaching a post-submission comment.

Instructions

Check to complete later, then click "Submit"

Approve

Appendix C: CODE OF ETHICS FOR THE PROFESSION OF RADIOLOGIC TECHNOLOGY

Principle 1

The Radiologic Technologist functions efficiently and effectively, demonstrating conduct and attitudes reflecting the profession.

- 1.1 Responds to patient needs.
- 1.2 Performs tasks competently
- 1.3 Supports colleagues and associates in providing quality patient care.

Principle 2

The Radiologic Technologist acts to advance the principle objective of the profession to provide services to humanity with full respect for the dignity of mankind.

- 2.1 Participates in and actively supports the professional organizations for radiologic technology.
- 2.2 Acts as a representative for the profession and the tenets for which it stands.
- 2.3 Serves as an advocate of professional policy and procedure to colleagues and associates in health-care delivery team.

Principle 3

The Radiologic Technologist provides service to patients without discrimination.

- 3.1 Exhibits no prejudice for sex, race, creed, and religion.
- 3.2 Provides service without regard to social or economic status.
- 3.3 Delivers care unrestricted by concerns for personal attributes, or nature of the disease or illness.

Principle 4

The Radiologic Technologist practices technology founded on a scientific basis.

- 4.1 Applies theoretical knowledge and concepts in the performance of tasks appropriate to the practice.
- 4.2 Utilizes equipment and accessories consistent with the purpose for which they have been designed.
- 4.3 Employs procedures and techniques appropriately, efficiently, and effectively.

Principle 5

The Radiologic Technologist exercises care, discretion, and judgment in the practice of the profession.

- 5.1 Assumes responsibility for professional decisions.
- 5.2 Assesses situations and acts in the best interest of the patient.

Principle 6

The Radiologic Technologist provides the physician with pertinent information related to the diagnosis and treatment management of the patient.

- 6.1 Compiles with the fact that diagnosis and interpretation are outside the scope of practice for the profession.
- 6.2 Acts as an agent to obtain medical information through observation and communication to aid the physician in diagnosis and treatment management.

Principle 7

The Radiologic Technologist is responsible for protecting the patient, self, and others from unnecessary radiation.

- 7.1 Performs service with competence and expertise.
- 7.2 Utilizes equipment and accessories to limit radiation to the affected area of the patient.
- 7.3 Employs techniques and procedures to minimize radiation exposure to self and other members of the health-care team.

Principle 8

- 8.1 Protects the patient's right to quality radiologic technology care.
- 8.2 Provides the public with information related to the profession and its functions.
- 8.3 Supports the profession by maintaining and upgrading professional standards.

Principle 9

- 9.1 Protects the patient's right to privacy.
- 9.2 Keeps confidential, information relating to patients, colleagues, and associates.
- 9.3 Reveals confidential information only as required by law or to protect the welfare of the individual or the community.

Principle 10

The Radiologic Technologist recognizes that continuing education is vital to maintaining and advancing the profession.

- 10.1 Participates as a student in learning activities appropriate to specific areas of responsibility as well as to the Scope of Practice.
- 10.2 Shares knowledge with colleagues.
- 10.3 Investigates new and innovative aspects of professional practice.

Developed by The American Society of Radiologic Technologists

Appendix D: PRINCIPLES OF PROFESSIONAL CONDUCT FOR RADIOLOGIC TECHNOLOGISTS

Principle 1:

Radiologic Technologists shall conduct themselves in a manner compatible with the dignity and professional standards of their profession.

Principle 2:

Radiologic Technologists shall provide services with consideration of human dignity and the needs of the patient, unrestricted by consideration of age, sex, race, creed, social or economic status, handicap, personal attributes, or the nature of the health problem.

Principle 3:

Radiologic Technologists shall make every effort to protect all patients from unnecessary radiation.

Principle 4:

Radiologic Technologists should exercise and accept responsibility for independent discretion and judgment in the performance of their professional services.

Principle 5:

Radiologic Technologists shall judiciously protect the patient's right to privacy and shall maintain all patient information in the strictest confidence.

Principle 6:

Radiologic Technologists shall apply only methods of technology founded upon a scientific basis and not employ those methods that violate this principle.

Principle 7:

Radiologic Technologists shall not diagnose, but in recognition of their responsibility to the patient, they shall provide the physician with all information they have relative to radiologic diagnosis or patient management.

Principle 8:

Radiologic Technologists shall be responsible for reporting unethical conduct and illegal professional activities to the appropriate authorities.

Principle 9:

Radiologic Technologists should continually strive to improve their knowledge and skills by participating in educational and professional activities and sharing the benefits of their attainments with their colleagues.

Principle 10:

Radiologic Technologists should protect the public from misinformation and misrepresentation.

These Principles are intended to serve as a guide by which radiologic technologists may evaluate their professional conduct as it relates to patients, colleagues, other members of the medical care team, health-care consumers, and employers and to assist radiologic technologists in maintaining a high level of ethical conduct.

American Registry of Radiologic Technologists

Appendix E: Group I Violation Form

Washtenaw Community College	Clinical Education
Radiography Program	Disciplinary Form

Student Name: _____ Clinical Site: _____

Group I Violation

Students who violate policies or display behaviors found in the Group I category will receive a failing grade for a clinical education course, be expelled from clinical education, and expelled from the radiography program. Dismissal for these offenses is permanent. ***Be advised that dismissal from a program may cause you to be ineligible to take the ARRT registry exam at any time in the future! It is the student's responsibility and not the WCC Radiography Program to contact ARRT for an Ethics Pre-Application Review of the student's status to be allowed to take the registry exam.***

- Obtaining, possessing or using controlled substances or alcohol on hospital premises. Reporting to the clinical station under the influence of any of these substances.
- Theft, abuse, misuse, or destruction of the property or equipment of any patient, visitor, student, hospital personnel, or the hospital.
- Disclosing confidential information about any patient, student, or hospital personnel, or clinical site without proper authorization, or any violation of HIPAA.
- Immoral, indecent, illegal, or unethical conduct on hospital premises.
- Possession of a weapon on hospital premises.
- Intimidation/threat (physical or verbal) or assault of any patient, visitor, student, instructor, or hospital personnel.
- Disruption, destruction, or removal of patient, student, or official hospital records without authorization.
- Falsifying any student or official hospital records.
- Unexcused absence of three consecutive clinical days or three no-call, no-shows in a semester.
- Request for removal by the clinical site for continued failure to perform at expected competency level, willful incompetence, serious infractions of site-specific rules, insubordinate behavior, or determination by the site's clinical instructor(s) or administration that continued training of the student would constitute a safety risk to patients or a disruption to normal department operations.
- Unsafe practice of the profession.
- Violation of the Radiography program's Radiation Safety Guidelines.
- Violation of the principles stated in the "Code of Ethics for the Profession of Radiologic Technology" or "Principles of Professional Conduct for Radiologic Technologists" found in the appendix of this handbook.

Signatures Required:

Student: _____ Date: _____

Clinical Coordinator: _____ Date: _____

Appendix F: Group II Violation Form

Washtenaw Community College Radiography Program	Clinical Education Disciplinary Form
--	---

Student Name: _____ Clinical Site: _____

Group II Violation

Violation of policies or display of behaviors found in the Group II category will result in one or more of the following disciplinary actions:

1. A written oral is given documenting the offense and counseling of the student.
2. Suspension - Dismissal from the clinical site for a specific number of days. This will be determined by the Clinical Coordinator and/or Clinical Instructor or Department Chair
3. A written reprimand and one letter grade reduction.
4. Failing grade for the course.

Please mark the offense(s) committed by the student:

- Excessive tardiness.
- Excessive absence.
- Leaving assigned area without permission.
- Soliciting, vending, or distribution of literature, written or printed matter without proper authorization.
- Using abusive, obscene, or inappropriate language around any patient, visitor, student, or hospital employee.
- Inappropriate dress or appearance based upon WCC policy.
- Leaving hospital premises during assigned clinical hours without proper authorization.
- Improper use of attendance or clinical hour make-up system according to clinical affiliate or program.
- Violation of the policies or procedures of the student's assigned clinical site.

Signatures Required:

Student: _____ Date: _____

Clinical Coordinator: _____ Date: _____

A narrative explanation is required with this form. This can be written on the back or accompany the document on a separate sheet.