

**Midlands Technical College  
Assessment Plan for 2019-2023**

(This cycle for the plan below: August 2019-July 2023)

<b>Goal #1: Possess the knowledge of positioning skills, technical factor solutions, and the utilization of radiation protection to be clinically competent as an entry-level radiographer.</b>					
<b>Student Learning Outcome</b>	<b>Measurement Tools</b>	<b>Timeframe</b>	<b>Benchmark</b>	<b>Actual Data Results</b>	<b>Past 3-5 years of Data results</b>
1.1. Demonstrate an understanding of x-ray production to include equipment operation of x-ray tube, accessory devices needed to produce the image, and all basic technical skills.	Final Exam change chart RAD 110 F	Semester 3	Student will answer true/false questions based on the “final exam change chart”, least 85% accuracy.	1.1 F Not Met	2023-81% N=13/16 2022- 73% N=8/11
	Final exam label x-ray tube and filament circuits. RAD 121 S.	Semester 5	Students will successfully label and define all parts of (single-phase X-ray tube and filament circuits) on the Final Exam with at least 85% accuracy	1.1.2 S Not Met	2023-57% N= 8/14 2022- 89% N= 8/9
1.2. Demonstrate an understanding of the ethical responsibility for health care workers to protect patient privacy and to ensure infection control in paper #2.	Teamwork in Healthcare paper. RAD 100 F.	Semester1	Students will achieve an 85% or better on the “Teamwork in Healthcare” paper (#2) for RAD 100.	1.2 F Met	2023-100% N=10/10 2022- 94% N=15/16

1.3. Demonstrate an understanding of the Health Insurance Portability and Accountability Act and also of the OSHA and CDC guidelines regarding Standard Precautions.	Complete certificates on HIPAA, BBP and Covid. RAD 153 S.	Semester 2	Students will provide documentation of completion of the HIPAA, Blood Borne Pathogens and Covid modules from Wolfe One Inc	1.3 S Met	2023-100% N=18/18 2022- 100% N=16/16 2021-100% N=19/19
1.4. Students will develop a knowledge level to perform well on examination #1, Shoulder, Humerus, Clavicle and Scapula.	Evaluation #1 RAD 130 F.	Semester 3	Students will achieve an overall score of 85% or better on examination #1, Shoulder, Humerus, Clavicle and Scapula.	1.4 F Not Met	2023- 81% N=13/16 2022- 77% N=10/13 2021-88.2% N=13/15
1.5.1 Demonstrate positive level of engagement during 3 semesters academic courses	August 200 question mock #1 RAD 165 F	Semester 4	Students will complete Mock #1 with a 75% or higher	1.5.1 F Not Met  <b>New Outcome for 2023</b>	2023-29% N 4/14
1.5.2 Students will complete 75% of the Corectec assignments by assigned due date	Corectec assignments RAD 220 S	Semester 6	Students will complete 80% of the Corectec assignments by the corresponding due date	1.5.2 S Met	2023-93% N 13/14 2022-100% N=12/12 2021-83% N= 15/18
1.5.3 Demonstrate knowledge required of a rising senior student and eventually that	Mock registry #4 RAD 220 M	Semester 6	Students will score 75% or better on the 4 <sup>th</sup> and final 200	1.5.3 M Met	2023- 89% N=8/9 2022- 58% N=7/12 2021- 83% N= 15/18

required of an entry level registered radiologic technologist and determine readiness for ARRT National Board Satisfactorily pass midterm test which is based on the course objectives.			question exam of the 5 <sup>th</sup> semester		
1.6. Complete the assigned rubric demonstrating methods radiographers can provide radiation protection to patients and others.	Student Academic Class Clinical Setting RAD 235 F.	Semester 3	Students will score $\geq$ 85% radiation protection rubric	1.6 F Met	2023- 100% N=17/17 2022- 72.7% N=8/11 2021-100% N=16/16 2020-100% N=17/17 2019- 42% N= 8/19
1.7.1 Will utilize radiation protection methods during radiographic/fluoroscopic examinations	Clinical Setting  Clinical Evaluation RAD 165 F.	Semester 4	Students score $\geq$ 2.5 (scale of 3) on 5 of the 15 “instructor Competency Grading Sheets”, item #4, “Evidence of Radiation Protection.”	1.7.1 F  Met	2023-87.5% N=14/16 2022-100% N=10/10 2021-75% N=12/16 2020- Covid No data 2019-100% N=17/17
1.7.2	Radiation worksheet  RAD 235 S	Semester 3	Students will score 85% or better on the effects of radiation worksheet. <b>RAD 235</b>	1.7.2 S  Not Met  <b>2022</b>	2023- 47% N=8/17 2022-72.7% N=8/11
1.8. Demonstrate satisfactory knowledge on check offs of chest and abdomen.	Chest anatomy and positioning test Abdomen anatomy and positioning test  RAD 101 F.	Semester 2	Students will score with 85% accuracy or better on 12 specific questions  from the chest	1.8 F Met	2023-Chest-94.8% Abdomen-16.5/18-87% 2022- Chest 31% N=5/16 Abdomen-63% N=10/16 2021-86.1% N=31/36

			positioning and 12 questions on the abdomen positioning tests.		
1.8.2	Recheck competency of chest and abdomen examination RAD 155 S.	Semester 3	Students will score at least a 2.8 on the recheck examinations of the chest and abdomen on the first attempt	1.8.2 S Met	2023- 100% N=14/14 2022-72.7% N=8/11
1.9. Demonstrate a positive work ethic during clinical rotations.	Instructor Performance evaluation #6. RAD 153 F	Semester 2	Students will achieve a successful rating of $\geq 3$ (5point scale) or above on the Instructor Performance Evaluation, #6 “Productivity: Output of satisfactory work”.	1.9 F Not Met	2023 72% N=13/18 2022-100% N=16/16 2021-93% N=13/14 2020-100% N=18/18 2019-100% N=18/18
1.10.1 Complete a skull project. This project requires the production of 19 preselected radiographic images. These images will have the anatomy, positioning criteria and the evaluation criteria labeled on each radiograph.	Skull project RAD 258 F	Semester 5	Students will achieve of 90% or better on the skull project. Category 7 to reflect grade in clinic course	1.10.1 F Met	2023 100% N=14/14 2022-40% N=6/15 2021-53% N=8/15 2020-89% N=16/18 2019-88% N=15/17
1.10.2	Portfolio score Rubric	Semester 6	Students will achieve of 95% or	1.10.2 S Met	2023- 93% N=13/14 2022-46% N=6/13

	RAD 268 S		better on the portfolio. Category 7 to reflect grade in clinic course		
<p><b>Analysis-</b> Of the 16 outcomes reviewed, 10 were met, 6 were not met and one is new for this year. So, 63% were achieved as compared to 37.5% from the prior cycle. This is an increase of 25.5%. 6 of these outcomes are in the second year of analysis. The changes made to the learning outcome from the previous year were positive. 3 of the outcomes in the second year of analysis were not meeting the goals. Of the long term goals (3+ years) that are not meeting the outcomes have new strategies created to be more interactive with the materials being covered. Several are very consistent from year to year of meeting the desired goal and then not. Faculty agrees this is more of a class characteristic/level of motivation.</p> <p><b>Action Plan based on Analysis:</b> At the close of each semester faculty meet for a SLO meeting. The outcomes for the semester completed are reviewed and then discussion is held by all faculty on what can be done to improve the score. Many of those outcomes not met are communication issues. Faculty will continue to verbally go over rubric, expectations, requirements and dates. Dates will be logged onto D2L shells, syllabi, and classroom calendar. Faculty will also do more shorter review sessions to keep the content of the lesson current on the students mind.</p> <p><b>Results/Improvements noted:</b> The faculty attributed the improvement in score for this section due to clarifying changes to prior rubrics. The faculty kept up on reminders and additional assistance of the projects while in clinic with the students. This allowed more to be successful than before.</p> <p><b>Re-evaluation Date:</b> Summer 2025.</p>					

<b>GOAL #2: Ability to communicate effectively to both written and oral forms.</b>					
<b>Student Learning Outcome</b>	<b>Measurement Tools</b>	<b>Timeframe</b>	<b>Benchmark</b>	<b>Actual Data Results</b>	<b>Past 3-5 years of Data results</b>
<b>Proficiency in Written Communications</b>					
2.1.1 Present a pathology paper	Pathology Presentation	Semester 3	Students will achieve a 90% or better on	2.1.1F Met	

using APA formatting skills.	RAD 130 F		the “APA” rubric for papers	<b>New outcome for 2023</b>	2023-100% N=14/14
2.1.2. Present final pathology paper using APA formatting skills	Pathology Presentation RAD 136 S.	Semester 4	Students will achieve a 90% or better on the “APA” rubric for papers	2.1.2 S  Met	2023-94% N=15/16 2022-90% N=9/10 2021-93% N=14/15 2020-94% N=17/18 2019-83% N=14/17
2.1.3. Demonstrate an understanding of life-long learning and professional development opportunities	Clinical Setting RAD 258 M.	Semester 5	Students will score 85% or higher on the continuing education essay rubric.	2.1.3 M Met	2023- 93% N= 13/14 2022-100% N=9/9
<b>Proficiency in Oral Communications</b>					
2.21 Demonstrate a successful presentation of the second radiographic case study	Clinical Setting Academic Class presentation RAD 155 F	Semester 3	Students will score $\geq$ 80% on the “Film Presentation Rubric”.	2.21 F  Met  New Rubric creation	2023-100% N 14/14 2022-100% N=11/11 2021-100% N=16/16 2020-100% N=19/19 2019- 100% N=19/19
2.2.2 Present final pathology paper using effective oral communications skills	Pathology Presentation RAD 130 S	Semester 3	Students will achieve a 3.3 or better on the “Oral Communication” rubric.	2.2.2 S Met  <b>New Outcome for 2023</b>	2023100% N=14/14
2.2.3. Present final pathology paper using effective oral communications skills	Pathology Presentation RAD 136 M	Semester 4	Students will achieve a 3.6 or better on the “Oral	2.2.3 M  Not Met	2023-50% N=7/14 2022-80% N=8/10 2021-93% N= 14/15 2020-78% N= 14/18 2019-94% N=16/17

			Communication” rubric.		
<p><b>Analysis:</b> This year more of the students assessed had taken ENG 160-Technical Communications as the prerequisite. This is a combination course composed of ENG 102- English Composition II and SPC 205-Public Speaking. The group did well. Outcome 2.2.3 M, only 50% of the seniors participated and did well. The successful students were attentive to the faculty members during the discussion of the required rubric and its use as a tool. The remaining students did enough to consider the project complete.</p> <p><b>Action Plan based on Analysis:</b> Faculty discussion at the outcome meeting entailed methods to move the student away from the computer and use note cards to discuss the pathology on display. The faculty members teaching this course will also add the use of props the peers can touch or hold as a part of the presentation. This could pull the students from the computer and be more eye-to-eye with their peers.</p> <p><b>Results/Improvement Noted:</b> The success of ENG 160 will have to be evaluated for at least two more years for the data to prove this course was a successful move for our students.</p> <p><b>Re-evaluation Date:</b> Summer 2025.</p>					

<b>GOAL #3: Will be able to problem solve using critical thinking skills</b>					
<b>Student Learning Outcome</b>	<b>Measurement Tools</b>	<b>Timeframe</b>	<b>Benchmark</b>	<b>Actual Data Results</b>	<b>Past 3-5 years of Data results</b>
3.1. Use critical thinking skills to adapt standard procedures for non-routine patients, weight bearing studies: Feet, Ankles, Knees	Competency Examinations  RAD 130 F.	Semester 3	Students will successfully complete test #1 on Weight Bearing Examinations with an $\geq 85\%$	3.1 F  Not Met	2023=83% N=15/18 2022-85% N=11/13 2021-71% N=15/21 2020- 83% N=15/18 2019-100% N= 19/19
3.2. Use critical/problem solving skills on one non-routine patient exam such as a stretcher/portable chest, bleeding or	Project rubric Non routine patient exam RAD 165 S	Semester 4	Students will score an 85% or better on the rubric created for this non-routine patient	3.2 S  Met	2023-81.3% N=13/16 2022-80% N=8/10

broken extremity, and extremity on a patient in cervical collar.					
3.3. Correctly answer 20 of 30 pathologic questions provided on the 100-question final examination. The remaining 70 questions will be skull anatomy and positioning content related.	Final examination RAD 136 F	Semester 4	Students achieve a 70% (20 of 30) or better on pathologic questions on the final examination	3.3 F Met	2023-50% N=7/14 2022-100% N=9/9 2021-73% N=11/15  Objective changed in 2020.
3.4. Demonstrate the knowledge and understanding of appropriate modality and exam selection for GI and GU systems as well as the accompanying dose to the patient for each	Fluoroscopic Project  rubric RAD 268 S	Semester 6	Students will achieve an 85% or better on the Fluoroscopy Project rubric	3.4 S  Not Met	2023-71.4% N=10/14 2022-17% N=2/12 2021-72% N=13/18 2020- 94.1% N=16/17 2019-90.9% N=10/11
3.4.1 Demonstrate the level of critical thinking skills on reasoning, resolution, condition of patient,	Clinical Settings  RAD 258 S	Semester 5	80% Students will average a 2.5 or better on a critical analysis of 5 repeated images. Likert scale will be	3.4.1 S  Not Met	2023-64.3% N=9/14 2022-88.9% N=8/9 2021- 93% N=14/15 2020-100% N=11/11 2019-82.4% N= 14/17



anatomy, proper alignment, technical factors, radiation protection and image identification.			added to current repeat analysis form.		
3.4.2 Demonstrate understanding of competent patient care procedures, infection control methods, and proper communication methods.	Student Academic Class RAD 102 F	Semester 2	Students will score 4 out of 5 on the "Infection Control Chart".	3.4.2 F Met	2023-94% N=17/18 2022-37.5% N= 6/16 2021-68.8% N= 11/16 2020- 94.7% N=18/19 2019-77.8% N=14/18
3.4.3 Understanding of competent patient care procedures, infection control methods, and proper communication methods.	Donning and removal of full PPE. RAD 165 S	Semester 4	Students will score 85% or better on PPE rubric when demonstrating to faculty the donning and removal of full PPE for Isolation Precautions and Covid patients	3.4.3 S Met	2023- 94% N=15/16 2022- 60% N= 6/10
3.5.1 Demonstrate skill in measuring vital signs to include: blood pressure, pulse, and respiration.	Human Patient simulator RAD 102 F.	Semester 2	Students will score 80% or better on the rubric when measuring vital signs on the Human Patient Simulators in the Simulation Center	3.5.1 F Met  <b>New Outcome for 2023</b>	2023- 88% N=14/16

3.5.2 Identify and describe the equipment needed and the technologist's role during four types of medical emergencies in the healthcare facility.	Medical Emergency Chart RAD 155 S	Semester 3	Students will score an average of 3.2 on a 4.0 scale on the medical emergency chart	3.5.2 S Met  <b>New Outcome for 2023</b>	2023-100% N=17/17
3.6.1 Demonstrate their understanding of technical factors, quality control, and exposure values to produce quality diagnostic x-rays in the clinical setting	Technical factor log RAD 110 F	Semester 3	Students will score at least 80% on this project based on completion percentage of log.	3.6.1 F Met	2023-100% N=17/17 2022-91% N= 10/11
3.6.2. Demonstrate their understanding of technical Factors, quality control, and exposure values to produce quality diagnostic images in the clinical setting.	Short paper on project RAD121 S	Semester 5	Students will score at least 80% on this project	3.6.2 S Not Met	2023-71% N=10/14 2022- 89% N=8/9
3.7.1. Demonstrate proper body mechanics on five non-routine patients. Examples: moving from stretcher to table or wheelchair to table.	Likert scale rubric RAD 153 F	Semester 2	Students will document five cases where body mechanics were used. They will score themselves from 1 to 3 using a Likert scale using rubric. 85% to average 2.4 or higher	3.7.1 F Not Met	2023-50% N=9/18 2022-100% N=15/15 2021-100% N=15/15  Benchmark changed in 2020.

3.7.2 Faculty to create 5 patient care scenarios requiring demonstration by the student on a variety of body mechanics	Likert scale rubric RAD 258 S	Semester 5	Students will score 85% or better on rubric using a Likert scale.	3.7.2 S Met	2023- 93% N= 13/14 2022-88% N=8/9 2021- 33% N= 5/15
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**Analysis:** A wide variety of critical thinking objectives were used. Of the 13 used, 8 met the outcomes ,62%, 5 did not, 38%, and 2 are new for this year. Once the students reach the third semester the basics are completed, and confidence comes. The third semester also brings in the trauma rotations from 2:00-10:00 PM at the level I trauma center in our area. This rotation along with one weekend challenges their critical thinking skills. The conversion of “textbook perfect” patients to “real life” trauma patients is present in most of the cases they do on these rotations. The percentages on a few of outcomes fluctuate so much from year to year. It is difficult to make a statement when the faculty who teaches the skills have not changed. The rotations have not changed, but there are more traveling faculty at our facilities this past year than in the past. We also had the adjunct faculty step in and assist with completing these movements rubrics.

**Action Plan based on Analysis:** This section is sequential in its structure. Faculty discussed the need to utilize the simulation lab with the mannikins at the college and create more critical thinking situations for the students. This can also be done in the afternoons during the fourth semester. The students can use the first half of the semester completing the skull projects and the second half on critical thinking scenarios in the radiology lab.

**Results/Improvements:** Last cycle, faculty stated they would encourage the students to do one of the weekend evenings on the midnight shift from 11:00 PM to 7:00 AM. There was no participation in this recommendation. This would have allowed the student to truly see critical thinking actions in play!

**Re-evaluation Date:** Summer 2025.

<b>GOAL #4: Be professionally minded and value life-long learning</b>					
<b>Student Learning Outcome</b>	<b>Measurement Tools</b>	<b>Timeframe</b>	<b>Benchmark</b>	<b>Actual Data Results</b>	<b>Past 3-5 years of Data results</b>
<b>Professionally Minded</b>					
4.1.1. Completion of modules in HIPAA,	Clinical Setting RAD 153 F.	Semester 2	Students will complete the three	4.1.1 Met	2023-100% N=10/10 2022-100% N=16/16 2021- 100% N=15/15

Blood Borne Pathogens and Covid			required modules and show proof of completion by submission of certificates.		
4.1.2. Possess the knowledge of positioning skills, technical factor solutions, and utilize of radiation protection to be clinically competent as an entry-level radiographer.	Clinical Setting RAD 165 S.	Semester 4	Students will score a 2.8 or higher (on a 3.0 scale) on five competency evaluations using the Instructor Competency Grading Sheet, #8, "Technic Manipulation (discussion of appropriate exposure quality)".	4.1.2 Met	2023- 100% N=14/14 2022-100% N=10/10
4.1.3. Demonstration of a positive level of engagement during registry review	Academic RAD 220 M.	Semester 6	Completion of 80% of Corectec online review assignments	4.1.3 Met	2023-100% 14/14 2022-100% 12/12
<b>Life Long Learning</b>					
4.2.1. Understanding of the necessity for ARRT certification and maintaining CE credits.	Student Academic Class. RAD 101 F.	Semester 2	Students will develop a chart for reference on all organizations who require and provide continuing education credits and CQR 2011.	4.2.1 F Not Met	2023-83% N-15/18 2022-100% 17/17 2021-100% 16/16  Outcome changed in 2020
4.2.2. Demonstrate an understanding and value of life-long	RAD 268 S	Semester 6	Students will attend $\geq$ 8 hours of validated professional	4.2.2 S Not Met	2023-72% N=10/14 2022-75% N=9/12 2021- Covid event 2020- Covid event

learning and professional development activities			development (continuing education) seminars during their final semester		2019-100% N=11/11
<p><b>Analysis:</b> 5 different outcomes are used on this goal. 2 of the 5 were not met, leaving us at 60% meeting the outcomes. Since the covid pandemic we have not been able to have 100% participation in the annual meeting attendance with the students. More of our students have small children or are a single parent. This creates a problem for them to attend the conference. Regarding objective 4.2.1. the 83% who satisfactorily developed a chart of professional organizations that affect their diagnostic careers, they did a great job. The remaining four had to have more details to make complete.</p> <p><b>Action Plan based on Analysis:</b> The officers of the RAD Tech Club are holding meetings earlier in hopes of getting more involved in the fundraising for the 2025 meeting. The interest to attend the meeting is strong at this time for attending. The juniors who did not attend learned all they missed with the 10 educational speakers and student competitions. The members of the RAD Tech Club did earn enough through fundraising to pay for registration and some of the gas expenses for those who attended the meeting.</p> <p><b>Results/Improvements noted based on action plans implemented:</b> The officers of this current year for the RAD Tech Club are well on their way of another year of successful fund raising! The faculty will continue to guide them and keep them on task for the fundraisers and competitions held at the conference.</p> <p><b>Re-evaluation Date:</b> Summer 2025.</p>					

09/04/2021 M3  
Revised: 07/08/2022 M3  
Revised: 08/27/2023 M3  
Revised 09/09/2024 M3