

**Midlands Technical College**  
**Assessment Plan for 2018-2022**  
(This cycle for the plan below: August 2018-July 2022)

<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  <b>New Outcome in Spring 2022</b>	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 Met  <b>New Outcome for Fall 2022</b>	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  <b>New Outcome for Summer 2022</b>	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	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	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  <b>New Outcome for 2023</b>	N/A
1.5.2	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	2022-100% N=12/12 2021-83% N= 15/18 Benchmark changed in 2020.
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 Not Met	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 Not Met	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	2022-100% N=10/10 2021-75% N=12/16 2020- Covid No data 2019-100% N=17/17 2018-92.3% N=11/12
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>New Outcome for 2022</b>	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 Not Met	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 Not met  <b>New Outcome 2022</b>	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 Met	2022-100% N=16/16 2021-93% N=13/14 2020-100% N=18/18 2019-100% N=18/18 2018-100% 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 Not Met	2022-40% N=6/15 2021-53% N=8/15 2020-89% N=16/18 2019-88% N=15/17 2018-92% N=12/13
1.10.2	Portfolio score Rubric	Semester 6	Students will achieve of 95% or	1.10.2 S Not Met	2022-46% N=6/13

	RAD 268 S		better on the portfolio. Category 7 to reflect grade in clinic course	<b>New Outcome 2022</b>	
<p><b>Analysis-</b> Of the 16 outcomes reviewed, 11 were not met, leaving 6 of 16 achieved, 37.5%. One is a new outcome for 2023. 7 are new outcomes for 2022. Faculty spent time reviewing the outcomes of 2017-2021 to determine the best category, formulative or summative, the objectives should go in. Discussions were held and new outcomes were developed to reinforce the learning for the summative category. A few outcomes were lower this year due to medical absence of instructor in early radiography classes.</p> <p><b>Action Plan based on Analysis:</b> With 7 new categories created more data will need to be collected over the next 1-2 years to determine the success of the objective. On those not meeting this reporting cycle will be reviewed by faculty prior to the start of the affected semester. More explanations will be provided to the students on expectations of the task. More diagram discussion will be held in Imaging. More practice time will be spent on chest and abdomen reviews prior to testing and prior to exposing the patients. The lowest performance measures were on the “Skull Project” with only 30% success. The portfolio project was very low and all the required images are expected to be completed prior to starting the imaging on the phantom. The past few years on the portfolio project the students did not take a large amount of care on this task.</p> <p><b>Results/Improvements noted:</b> Faculty really looked closely at the prior matrixes/assessment plans used. More categories were built into this reporting cycle. The next year’s assessment plan will have incorporated the recommended types of outcomes; formulated, summative and mastery on all the program’s benchmarks used. The above outcomes will remain to next year for additional reporting of data.</p> <p><b>Re-evaluate Date:</b> Summer 2024.</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	

using APA formatting skills.	RAD 130 F		the “APA” rubric for papers	<b>New outcome for 2023</b>	
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	2022-90% N=9/10 2021-93% N=14/15 2020-94% N=17/18 2019-83% N=14/17 2018-69% N=9/13
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  <b>New Outcome for 2022</b>	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 ≥ 80% on the “Film Presentation Rubric”.	2.21 F Met  New Rubric creation	2022-100% N=11/11 2021-100% N=16/16 2020-100% N=19/19 2019- 100% N=19/19 2018 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  <b>New Outcome for 2023</b>	
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 Met	2022-80% N=8/10 2021-93% N= 14/15 2020-78% N= 14/18 2019-94% N=16/17

			Communication” rubric.		2018-100% N= 13/13
<p><b>Analysis:</b> The students have always done well on their writing and oral presentations in the past. Two years ago the prerequisite for English changed from English 102 &amp; Public Speaking to ENG 160- Technical Communications. 160 is a combination course being used to reduce the overall credit numbers and yet meet the college speaking and English skills for graduation.</p> <p><b>Action Plan based on Analysis:</b> The upcoming grading cycle will include the English 160 students moreso than this year. Faculty waits to see the results of a decrease in scores compared to past by taking this one course only.</p> <p><b>Results/Improvement Noted:</b> We have closed the circle on the success of the students over the last several years. Faculty may be opening a new issue if the scores reduce from the past cycles. If so, consideration will be given to returning to ENG 101 &amp; SPC 205 to ensure better success for the student, especially if going on to further their education.</p> <p><b>Re-evaluation Date:</b> Summer 2024</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  Met	2022-85% N=11/13 2021-71% N=15/21 2020- 83% N=15/18 2019-100% N= 19/19 2018-69% N=9/13
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  Not Met  <b>New Outcome</b>	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	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	2022-17% N=2/12 2021-72% N=13/18 2020- 94.1% N=16/17 2019-90.9% N=10/11 2018-92.9% N=13/14
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 Met	2022-88.9% N=8/9 2021- 93% N=14/15 2020-100% N=11/11 2019-82.4% N= 14/17 2018-82.5% 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 Not Met	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 Not Met  <b>New Outcome for 2022</b>	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  <b>New Outcome for 2023</b>	

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  <b>New Outcome for 2023</b>	
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  <b>New Outcome</b>	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 Met  <b>New Outcome</b>	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 Met	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	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 11 used, 7 met the outcomes and 4 did not. There are also 2 included in this section that will begin next year). One the students reaches the third semester the basics are completed and the confidence comes into them. 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 the vast majority of the cases they do on these rotations.

**Action Plan based on Analysis:** This section is sequential in its structure. Faculty get’s the students through the basics of all coursework by the midterm of third semester. From this point trauma level III comes into rotations and then trauma level I. It is a steady and consistent build up of skills to achieve the success they do.

**Results/Improvements:** Faculty will be encouraging students to do one midnight shift from 11:00 pm-7:00 am during the 4<sup>th</sup> or 5<sup>th</sup> semester this upcoming reporting cycle. Faculty recommends the student to do this on one of their trauma weekend rotations since they have Friday off prior and Monday off after the weekend in clinic.

**Re-evaluation Date:** Summer 2024.

<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	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  <b>New Outcome 2022</b>	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 New Outcome for 2022	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 Met	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	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 2018-92.9% N=13/14
<p><b>Analysis:</b> 5 different outcomes are used on this goal. One 1 of the 5 was not met. Prior to the Covid pandemic all of the senior students and most of the junior students would attend the state society meeting. Usually those with small children would not attend. Since the pandemic the number of students attending has decreased. Fundraisers were done specifically to assist in the registration fee, hotel fee and mileage for the students to attend the state meeting. As you can see only 75% attended. This particular group also received free tuition for the 6 semesters of the program.</p> <p><b>Action Plan based on Analysis:</b> The officers of the RAD Tech Club are holding meetings earlier in hopes to get more involved in the fundraising for the 2024 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.</p> <p><b>Results/Improvements noted based on action plans implemented:</b> Faculty sees the word of mouth discussions on the 2022 and 2023 meeting is bringing more interest in the students to attend in 2024! Free tuition also ends starting fall semester 2024.</p> <p><b>Re-evaluation Date:</b> Summer 2024</p>					

09/04/2021 M3  
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