

Midlands Technical College
Assessment Plan for 2017-2021
(This cycle for the plan below: August 2017-July 2021)

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.					
Student Learning Outcome	Measurement Tools	Timeframe	Benchmark	Actual Data Results	Past 3-5 years of Data results
1. Utilize skeletons, radiographs, and diagrams to learn 206 bones of the human body, locations of the bones and organs in cross sectional anatomy.	Student Academic Final Evaluation Class. RAD 105 F.	Semester 1	Student will score \geq 85% in RAD 105 on 30 preselected questions	1.1.F Not Met 2020- N/A Merged In the Credit Reduction process into RAD 130 & RAD 136	2019-50% N=9/18 2018-11%- N=2/19 2017 46% N=8/18 2016-75% N=12/16
	Student Academic Test #2 Class. RAD 130 S.	Semester 2	Student will score \geq 85% on examination #1 Shoulder, Humerus, Clavicle, and Scapula	1.1.S Met 2021- 88.2% N=13/15	New Outcome for 2021
2. 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.	Student Academic Final Evaluation Class. RAD 110 F.	Semester 2	Student will complete the technical change chart section on final exam with \geq 85% accuracy	1.2 F Not met 2021- 69% N=11/16	2020-68% N=13/19 2019-37% N=7/19 2018- 38% N=5/13 2017-38% N=5/15
	Student Academic Final Examination Class. RAD 121 S.	Semester 4	Student will successfully label and define all parts of single phase X-ray		New outcome in Fall 2022

			and filament circuits on final exam with \geq 85% accuracy		
3. Understanding of design and function of Screen-Film radiography (SF), Digital Radiography (DR), and Radiographic Fluoroscopy (RF). Student will mathematically interpret various technical factor changes with effect of final image, including DR exposure indices.	Student Technical Factors Log Class. RAD 110 F.	Semester 2	Student will complete a log of technical factors used in exams during clinical rotations with \geq 80% completion	1.3.F. Not Met Now in RAD 110 2021- 69% N=7/11	2020- 68% N=9/13 2019- 56% N=5/9 2018- 15% N=2/13 2017- 38% N=6/16 Outcome was not met but the math formula skills have increase by 12%. Due to credit reduction and Guided Pathways this course will be merged into RAD 110 in spring 2021.
	Student Academic Final Evaluation Class. RAD 115 S.	Semester 3	Student will successfully calculate a series of technical factors and exposure index math questions on the final examination with \geq 85% accuracy.	1.3.S. Not Met 2021-N/A Merged into RAD 110 in the Credit Reduction process	2020- 68% N=13/19 2019 -68% N=13/19 2018- 56% N=9/16 2017- 38% N=6/16
4. Demonstrate an understanding of the ethical responsibility for health care workers to protect patient privacy and to ensure infection control	Student Academic Test #3 Class. RAD 101 F.	Semester 1	Students will \geq 90% on both HIPAA and Standard Precautions tests	1.4.F. Met 2021- 100% N=19/19	2020-90% N=18/20 2019-100% N=11/11 2018- 100% N=12/12 2017- 100% N=13/13

				Last cycle of this outcome. Will be new for 2022	
	Student Documentation of completed modules RAD 153 S.	Semester 1	Student will provide documentation of 100% completion of modules on HIPAA, Blood Borne Pathogens, and Covid	1.4.S. Met 2021- 100% N=19/19	New outcome
5. Students will develop a knowledge to perform well on examination #6, Digestive System anatomy.	Student Academic Course Simulation Lab Academic Test #6 RAD 130 S.	Semester 2	Students will achieve $\geq 85\%$ examination #6, Digestive Anatomy.	1.5 S. Not Met 2020-78% N=11/15	2019-79% N=15/19 New Outcome 2021-2022: will focus on scores for Test #2: Shoulder, Humerus, Scapula and Clavicle 1. S above
6. Complete the assigned rubric demonstrating methods radiographers can provide radiation protection to patients and others.	Student Academic Class Clinical Setting Class. RAD 235 F.	Semester 2	Students will score $\geq 85\%$ radiation protection rubric	1.6.F. Met 2021-100% N=16/16	New Student Learning created to get students more involved in protection. 50% of the class did the actual work for the rubric. Due to COVID and moving virtual faculty created criteria for the remaining class to use for the rubric
7. Will utilize radiation protection methods during	Clinical Setting Clinical Evaluation RAD 165 F.	Semester 3	Students score ≥ 2.5 (scale of 1-3) on 5 of 15 "Instructor	1.7.F. Not Met	2020-94% N=14/15 2019- 100% N=17/17

radiographic/fluoroscopic examinations			Competency Grading Sheet”, item #4, “Evidence of Radiation Protection.”	2021-75% N=9/12 Moved to Fall 2020 due to lack of clinical rotations from COVID	2018-92.3% N=11/12 2017- 93.8% N=13/15)
8. Demonstration 6 of 12 specific competency examinations in clinic	Competency Exam Class. RAD 101 F.	Semester 1	Students’ will complete ≥ 80% accuracy on 6 examinations	1.8.F. Met 2020-94% N=17/18 New outcome for Fall 2021	2019-94% N=17/18 2018- 95% N=18/19 2017-90% N=19/21 2016- New Outcome
9. Demonstrate a positive work ethic during clinical rotations.	Clinical Evaluations RAD 153 F.	Semester 1	Students will achieve a successful rating of ≥ 3(5point scale) or above on the Instructor Performance Evaluation, #6 “Productivity: Output of satisfactory work”.	1.9.F. Met 2021-93% (14)	2020-95% N=17/18 2019-100% N=18/18 2018-100% N=19/19 2017-95% N=18/19
10. 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.	Student Academic Class Psychomotor Clinical Setting Evaluations Class. RAD 284 S.	Semester 5	Students will achieve ≥ 85% on the Fluoroscopy Project rubric	1.10.S Not Met 2021- 72.2% N= 13/18 Removed in the Credit Reduction process. Moved to RAD 268 as a	2020-94% N=16/17 2019-91% N=15/16 2018-90.9% N=10/11 2017-92.9% N= 13/14

				Written Objective with same content	
	Student Clinical Setting Evaluations RAD 268 S.	Semester 5	Students will achieve ≥ 85% on the Fluoroscopy Project rubric	1.10.S. Not met 2021- 72% N=13/18	Moved outcome from RAD 284
<p>Analysis- This year was greatly affected by Covid, virtual teaching and lack of clinical rotations. This was a total conversion for the program. We preloaded all academic courses for summer and fall into a 5- week summer I sessions meeting 4 days 7 hours. Students were off on Friday. Summer II 5-week session met the same time and contained for fall academic courses. This allowed the students to be 3.5 days in clinic in the fall semester for clinical experience. Despite maintaining the same outcomes, the scores maintained consistent.</p> <p>Action Plan based on Analysis: Lack of both formative and summative tools used to complete circle. New learning objectives will be developed to enhance the summative outcomes.</p> <p>Results/Improvements noted: Each Outcome will have a specific formative and summative measuring tool for it. Begin the addition of mastery level tools from final semester evaluations and post graduate surveys.</p> <p>Re-evaluate Date: 2021-2022</p>					

GOAL #2: Ability to communicate effectively to both written and oral forms.					
Student Learning Outcome	Measurement Tools	Timeframe	Benchmark	Actual Data Results	Past 3-5 years of Data results
1. Demonstrate a successful presentation of the second radiographic case study	Clinical Setting Academic presentation RAD 155 F.	Semester 2	Students will score ≥ 80% on the “Film Presentation Rubric”.	2.1.F. Met 2021- 100% N=16/16	2020- 100% N=19/19 2019- 100% N=19/19 2018 100% N=19/19 2017 100% N=13/13

2. Present two papers; one on a modality of interest and the second on the final pathology using APA format and effective oral communications skills	Class: RAD 136 F.	Semester 3		2.1.F. Met 2021- 93% N= 14/15	2020- 89% N=16/18 2019-69% N=9/13 2018- 86% N=12/14 2017- 92% N=12/13
	Rubrics APA & Oral communications Class: RAD 225 S.	Semester 4	Students will achieve ≥ 3.6 on the “Oral Communication” rubric and $\geq 95\%$ “APA” rubric.	2.2.S. Met 2020- N/A Merged into RAD 136 for Credit Reduction process.	2019-89% N=16/18 2018-69% N=11/16 2017-83% N=14/17 2016-92% N=12/13

Analysis: The students have done well on initial image presentations. Students had difficulty using Zoom for image presentations as they only can review the screen. This should continue to previous scores as back to classroom learning is anticipated.

Action Plan based on Analysis: Faculty discussion on additional information on rubric requiring deeper research into the case image study.

Results/Improvement Noted: Research in second semester will be formative to the pathology final examination in RAD 136 utilizing additional images studied. This score could serve as the summative outcome for this objective.

Re-evaluation Date: 2021-2022

GOAL #3: Will be able to problem solve using critical thinking skills					
Student Learning Outcome	Measurement Tools	Timeframe	Benchmark	Actual Data Results	Past 3-5 years of Data results
1. Use critical thinking skills to adapt standard	Competency Examinations Class. RAD 130 F.	Semester 2	Students will successfully complete test #1 on Weight	3.1.F. Not Met	2020- 83% N=15/18 2019-100% N=19/19 2018-69% N=9/13

procedures for non-routine patients, weight bearing studies: Feet, Ankles, Knees			Bearing Examinations with an $\geq 85\%$	2021- 71% N=12/17 Moved to Test #2 for additional study time	
2. Student will complete a skull project, 19 preselected radiographic images taken. These images will have the anatomy, positioning criteria and the evaluation criteria labeled on each radiograph.	Simulation Lab Class. RAD 136 F.	Semester 4	Students $\geq 90\%$ or better on the skull project	3.2.F. Not Met 2021-53% N=8/15	2020-89% N=16/18 2019- 88% N=15/17 2018-92% N=12/13 2017-64% N=9/14 2016- 93% N=15/16 Due to COVID-19, this objective has been moved to fall 2020 RAD 165 as a written objective, 10-point category.
3. Evaluate the radiographic image on anatomy of part, proper alignment of tube, technique manipulation, image identification and radiation protection.	Student Academic Test #2 Class. RAD 101 F.	Semester 1	Student will score $\geq 85\%$ on chest positioning and abdomen positioning tests	3.3.F. Met 2021- 86.1 % N=31/36	New outcome 2021 Chest- 83.3% N=15/18 Abdomen- 89% N=16/18
	Clinical Settings RAD 258 S.	Semester 4	Students will score a 2.8 or higher (on a 3.0-point scale) average on the "Instructor Competency Grading Sheet", Image	New Outcome for 21-22	2020-100% N=11/11 2019-82.4% N=14/17 2018-82.4% N=14/17 2017-88% N=7/8 2016-84.6% N=11/13

			Evaluation Criteria, #7 (proper alignment)		
4. Demonstrate understanding of competent patient care procedures, infection control methods, and proper communication methods.	Student Academic Class. RAD 102 F.	Semester 1	Students will score 4 out of 5 on the "Infection Control Chart".	3.4.F. Not Met 2021- 68.8% N=11/16	2020-94.7% N=18/19 2019-77.8% N=14/18 New Outcome 2019
5. Demonstrate knowledge required of a rising senior student and eventually that required of an entry level registered radiologic technologist and determine readiness for ARRT National Board Satisfactorily pass midterm test based on the course objectives.	Student Academic Class. RAD 220. S.	Semester 5	Students achieve \geq 80% on each of the 200 question exams.	3.5.S. Not Met 2021-83% N=15/18 New outcome 20-21 Calculation of test 4 only and using 75% ARRT cut score.	2020-12% N=2/17 2019- 0% 0/11 2018- 42% N=6/14
6. Students will demonstrate knowledge and skills required for non-routine patients.	Student Academic Class. RAD 225 S.	Semester 4	Students will score \geq 90% on the midterm test, Special Views.	3.6.S. Not Met 2021-71% N=12/17 Due to COVID this course became a summer I-5 week.	2020-79% N=15/19 2019-82% N=14/17 2018-29% N=5/17 2017-65% N=9/14

				Therefore, the midterm was dropped. Both of the pathology sections will be due in fall semester and a test will be given in RAD 130. Beginning Fall 2021 this course will be absorbed in RAD 130 & RAD 136.	
7. Demonstrate understanding of the design and function of x-ray circuitry, image intensification and digital imaging.	Student Academic Cognitive Psychomotor Clinical Setting RAD 268 S.	Semester 5	Students will score ≥ 2.5 , Instructor Competency Sheet #5 "Technique Manipulation"	3.7.S. Not Met 2021- 87% N=13/15	2020- 100% N=16/16 2019-100% N=11/11 2018-90.9% N= 10/11 2017-100% N=8/8 Success rate increased from 85% to 90%
8. Demonstrate their understanding of image quality control and exposure values in the clinical setting	Clinical Setting Class. RAD 121 F	Semester 4	Students will score at least 85% on the project.	2020- 43% N=6/14 (Summer II due to Covid changes)	2019-100% N=16/16 2018- 60% N=9/15 2017- 62% N= 8/13 2016-86% N= 12/14
<p>Analysis: The main analysis on this section was #5. S, regarding the grading of the mock exams given. This was originally based on our class academic scores of 85%. These exams were given the last week of the semester as the students completed a 14- week review cycle. Faculty did not take into account the exhaustion level of this schedule.</p> <p>Action Plan based on Analysis: New outcome using on mock test #4 as the key exam to develop this score. This will be based on the 75% passage score of ARRT.</p>					

Results/Improvements: Improvements in the scores are expected. Mock test #4 will then be compared to the ARRT registry score for analysis for upcoming Mastery level.

Re-evaluation Date: 2021-2022

GOAL #4: Be professionally minded and value life-long learning					
Student Learning Outcome	Measurement Tools	Timeframe	Benchmark	Actual Data Results	Past 3-5 years of Data results
1. Understanding of the necessity for ARRT certification and maintaining CE credits.	Student Academic Class. RAD 101 F.	Semester 1	Students will attend \geq one professional local society meeting during the semester.	4.1.F. Not Met 2020- 0% Covid closure of on campus meetings Local chapter folded due to inactivity and funding.	2019- 0% Covid closure of on campus meetings. 2018- 95% N=18/19 2017- 71% N=15/21 2016- 100% N=17/17
2. Demonstrate an understanding and value of life-long learning and professional development activities	Clinical Setting Affective Cognitive RAD 268 S.	Semester 5	Students will attend \geq 8 hours of validated professional development (continuing education) seminars during their final semester	4.2.S. Not Met 2021- 0% Covid closure	2020- 0% Covid Closure 2019- 0% Covid Closure 2018-100% N=11/11 2017-92.9% N=13/14 Changed to Life Long Learning

<p>Analysis: This category has always been a strong one for MTC. Our students have enjoyed the educational opportunities they experienced while there. They have placed many times in the scientific exhibits and scientific presentations over the years. They have missed a great experience due to Covid the last few years</p> <p>Action Plan based on Analysis: At this point in time, the society is moving forward to have the SCSRT Annual Conference in April of 2022 pending Covid pandemic.</p> <p>Results/Improvements noted based on action plans implemented:</p> <p>Re-evaluation Date: 2021-2022</p>
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GOAL #5: To support the General Education Core of the college by delivering a course that meets the Oral Communication competency for certain programs.					
Student Learning Outcome	Measurement Tools	Timeframe	Benchmark	Actual Data Results	Past 3-5 years of Data results
Present two papers; one on a modality of interest and the second on the final pathology. The student will use APA format and will present using effective oral communications skills	Student Academic Class. RAD 225 S.	Semester 4	Students will achieve ≥ 3.6 "Oral Communication" rubric and a $\geq 95\%$ "APA" rubric for both papers	2020- 89% N=16/18 This course has been deleted due to credit reduction. The positioning portion will be merged into RAD 130 & RAD 136.	2019- 89% N=16/18 2018- 86% N=12/14 2017- 69% N=9/13 New English 160 pre-requisite added to delete RAD 225 in Credit Reduction process.
	Student Academic Class. RAD 136 S.	Semester 4	Students will achieve ≥ 3.6 "Oral Communication" rubric and a $\geq 95\%$ "APA" rubric for both papers	5.1.S. Met 2021- 93% N=14/15	2020- 78% N=14/18 (Completed during Summer I due to Covid)
<p>Analysis: The "General Education" core class of RAD 225 was replaced with ENG 160-Technical Communications. This is a combination of ENG 101 and SPC 205-Public Speaking. SC STE approves this course for public speaking as confirmed in credit reduction process.</p>					

Action Plan based on Analysis: Faculty would like to use this category for “Mastery Level” measurement tools in 2022.

Results/Improvements: This would aid program in determining competency at graduation but also “Proficiency” at the first year of work experience.

Re-Evaluation Date: 2021-2022

09/27/2022 NDW & 10/4/2022 MMM