

# Radiologic Technology Program Analysis Summary

Marion Technical College

July 2021– June 2022

College Mission Statement

*The mission of the College is to provide the region's most accessible, supportive, and personal pathway to career success.*

**Radiography Program Mission Statement**

*To provide an environment for student radiographers to become qualified and competent technologists in a healthcare setting. We partner with the healthcare community to provide higher education for radiographers and the School encourages the process of life-long learning.*

<b>Goal 1: Students will demonstrate the skill of an entry level radiographer.</b>							
<b>Outcome</b>	<b>Measurement Tool</b>	<b>Benchmark</b>	<b>Timeframe</b>	<b>Responsible Party</b>	<b>Actual Outcome</b>	<b>Trends</b>	<b>Action Taken</b>
Students/Graduates will demonstrate correct positioning skills.	Comprehensive Test ; Rad Review Easy/HESI (Positioning Section) RAD 1200 2 <sup>nd</sup> term RAD 2201 5 <sup>th</sup> term	Students will average a 85%	2nd term 5 <sup>th</sup> term	Program Director	The class average for RAD 1200 was 71%  HESI FINAL- All student met 700 benchmark in this category.	<b>2022 76%</b> <b>2021 83.31%</b> <b>2020 71%</b> <b>2019 69.1</b> <b>2018 74%</b> 2017 82% 2016 82.5% 2015 76% 2014 79% 2013 74% 2012 85% 2011 78.27%	Benchmark on HESI exam raised to 750. 4 of 16 students did not met benchmark. Students spent additional study sessions with PD. 15 of 16 students passed registry on 1 <sup>st</sup> attempt. Safety net policy implemented. Study review guides implemented. Review sessions at student meetings. Power point updated. Review power point created and posted as resource.

	Semester Evaluation Form (Positioning Section)	Students will average an 85%	RAD 1200 (2 <sup>nd</sup> semester) RAD 2201 (5 <sup>th</sup> semester)	Clinical Coordinator	The class average for RAD 1200 was 85%. The class average for RAD 2201 was 87%.	2022 87% 2021 88% 2020 89% 2019 88% 2018 87% 2017 88% 2016 90% 2015 90% 2014 87%	Benchmark met. Stable trend. Students continue to possess appropriate entry level positioning skills. On campus labs continue to be effective. Student also practice positioning during down times at clinical sites. Study review guides implemented. Review session during summer semester. Review sessions at student meetings.
Students/Graduates will practice optimal exposure factors.	Comprehensive Test (Exposure Section) RAD 1200 2 <sup>nd</sup> term RAD 2201 5 <sup>th</sup> term	Students will average a 85%	RAD 1200 2 <sup>nd</sup> term RAD 2201 5 <sup>th</sup> term	Program Director	The class average for RAD 1200 71%  HESI FINAL All student met 700 benchmark	<b>2022 76%</b> <b>2021 65%</b> <b>2020 71%</b> <b>2019 69%</b> <b>2018 69%</b> <b>2017 64%</b> 2016 76% 2015 76% 2014 74% 2013 75% 2012 81.93% 2011 83.63%	Students continue to struggle with the understanding of exposure. Additional review class during summer semester. Safety net policy implemented. Study review guides implemented. Review sessions at student meetings. Power point updated. Review power point created and posted as resource.
	Semester Evaluation Form (Exposure Section)	Students will average an 85%	RAD 1200 (2 <sup>nd</sup> semester) RAD 2201 (5 <sup>th</sup> semester)	Clinical Coordinator	The class average for RAD 1200 was 84%. The class average for RAD 2201 was 84%.	2022 84% 2021 83% 2020 87% 2019 86% 2018 87% 2017 88% 2016 89% 2015 89% 2014 88%	Benchmark not met, but has a slight upward trend. Creation of technique charts during summer semester improve student understanding. During on campus labs students must set manual techniques on the control panel.

<p>Student/Graduates will provide patient education, comfort, and basic patient care, anticipate patient needs and recognize emergent conditions requiring initiation of first-aid and basic life support procedures.</p>	<p>Semester Evaluation Form ( Patient Care Section)</p>	<p>Students will average an 85%</p>	<p>RAD 1200 (2<sup>nd</sup> semester) RAD 2201 (5<sup>th</sup> semester)</p>	<p>Clinical Coordinator</p>	<p>The class average for RAD 1200 was 87%. The class average for RAD 2201 was 88%.</p>	<p>2022 88% 2021 88% 2020 89% 2019 88% 2018 89% 2017 90% 2016 91% 2015 90% 2014 87%</p>	<p>Benchmark met. Stable trend. Summer semester patient care review continues to be effective strategy.</p>
		<p>Minimum comprehensive score of 85%</p>	<p>RAD 1200 2<sup>nd</sup>semester RAD 2201 5<sup>th</sup> semester</p>	<p>Program Director</p>	<p>The class average for RAD 1200 was 68% HESI FINAL Mean score was 722</p>	<p><b>2022 72.53</b> <b>2021 90.66</b> <b>2020 68%</b> <b>2019 79%</b> <b>2018 78%</b> 2017 88% 2016 91% 2015 85% 2014 90%</p>	<p>Study review guides implemented. Review sessions at student meetings. Power point updated. Review power point created and posted as resource.</p>

**Action/Analysis: Review sessions are held during summer semester to reinforce skills which were taught early in the program. Kettering Review session was held in May prior to graduation.**

**Students make technique charts for their clinical site during the summer semester to help their understanding of techniques and how it affects patient exposure.**

Downward trend of comprehensive test results. Comprehensive tests scores are not calculated into student's grades. We believe the reason for the downward trend is lack of preparation because student grades are not affected by the outcome of the test results. Will develop action plan or select another tool to assess benchmark. Marion Technical College currently utilizes the HESI testing system during the student's final semester. All radiography students must pass the HESI test with a score of 700 or higher in order to graduate. The program is meeting that benchmark of over 80%.

Action Plan for Improvement regarding Comprehensive Test Scores:

Currently the comprehensive testing is not included in the students grade even though the exam is graded. The plan is to include the comprehensive test scores as part of the student's clinical grade. We believe the students will begin to student for exam prior to the program's final semester. This change was discussed during MIP department meetings. The change will be discussed with student during October 2019 student meeting. The action plan will also be discussed during the Advisory Committee meeting to be held November 2019. If action plan does not improve outcomes, we will select an alternate tool for assessment of these skills.

HESI Analysis for Class of 2020 was the overall HESI score. In order for the student to pass the radiography review class, the student must obtain a score of 700 on one of the two HESI EXAMS. We no longer use comprehensive exams during the final semester because the tests are becoming outdated due to advancements in technology. Student feedback regarding HESI has remained positive. We will continue to monitor national credential pass rates and student success.

While the overall benchmarks were not met in exposure and positioning, we have seen a slight improvement in final HESI testing. We continue to provide one on one student tutoring as well as implementation of the safety net policy. We will continue to monitor.

<b>Goal #2: The student will demonstrate critical thinking and problem solving skills.</b>								
<b>Outcome</b>	<b>Measurement Tool</b>	<b>Benchmark</b>	<b>Timeframe</b>	<b>Responsible Party</b>	<b>Actual Outcome</b>	<b>Trends</b>	<b>Action Taken</b>	
Students/Graduates will exercise independent judgment and critical thinking skills.	Semester Evaluation (Independent Judgment)	Students will average an 85%	RAD 1200 (2 <sup>nd</sup> semester) RAD 2201 (5 <sup>th</sup> semester)	Clinical Coordinator	The class average for RAD 1200 was 85%. The class average for RAD 2201 was 88%.	2022 88% 2021 87% 2020 89% 2019 88% 2018 88% 2017 90% 2016 90% 2015 90% 2014 89%	Benchmark met. Stable trend. During on campus labs students must perform non-routine exams. Critical thinking exercise assignment each semester proven to be an effective tool.	
Students/Graduates will evaluate images for optimal technical factors and appropriate positioning.	Semester Evaluation Form (Image Analysis Section)	Students will average an 85%	RAD 1200 (2 <sup>nd</sup> semester) RAD 2201 (5 <sup>th</sup> semester)	Clinical Coordinator	The class average for RAD 1200 was 85%. The class average for RAD 2201 was 87%.	2022 87% 2021 87% 2020 89% 2019 88% 2018 88% 2017 89% 2016 90% 2015 87% 2014 89%	Benchmark met. Stable trend. During on campus labs students must evaluate images of required lab exams.	
	Clinical Test Scores	Students achieve a minimum clinical test grade of 85% or above	RAD 1200 (2 <sup>nd</sup> semester) RAD 2201 (5 <sup>th</sup> semester)	Clinical Coordinator	The class average for RAD 1200 was 81%. The class average for RAD 2201 was 82%.	2022 82% 2021 80% 2020 88% 2019 88% 2018 84% 2017 82% 2016 84% 2015 82% 2014 83%	Benchmark not met, but an upward trend was seen. Implemented review study sheets.	

Employers are satisfied with graduate problem solving skills.	Employer Survey Question # 16	Survey results will indicate an average $\geq 3.2$ on a scale of 0-4	Annually	Program Director	The class average was a 3.31	2022 3.64 2021 3.9 2020 3.31 2019 3.5 2018 3.43 2017 2.38 2016 3.9 2015 4.0 2014 3.2 2013 3.8 2012 3.88 2011 4.0	Critical thinking exercise assignment each semester proven to be an effective tool.
Students/Graduates will modify routine imaging parameters for trauma patients.	Semester Evaluation Form (Accommodations)	Students will average an 85%	RAD 1200 (2nd semester) RAD 2201 (5 <sup>th</sup> semester)	Clinical Coordinator	The class average for RAD 1200 was 85%. The class average for RAD 2201 was 89%.	2022 89% 2021 87% 2020 89% 2019 89% 2018 89% 2017 89% 2016 90% 2015 89% 2014 90%	Benchmark met. Stable trend.  During on campus labs students must perform non-routine exams.
	Lab Simulations	Students must pass lab simulations prior to competency testing.	All clinical courses	Clinical Coordinator	All students pass routine lab simulations before competency evaluation.		If students fail a lab simulation 2 times they must write a paper to reinforce skills. They also practice with clinical preceptor.

### Action/Analysis:

Mentoring policy was implemented Fall 2015 as an added resource to improve retention, improve moral, and reduce stress level. Coaching sessions were added as a student resource. If a student is struggling in a specific area, faculty will meet with the student one on one. The faculty member will discuss learning strategies to improve deficiency. Students are introduced to critical thinking and problem solving during their 1<sup>st</sup> spring semester. After introduction, students are required to complete critical thinking and problem solving scenarios each semester until graduation. The final scenario is graded by CGC rubric. Data is collected for assessment by the college.

2017. Critical thinking benchmark was not met with regard to employer surveys. We are meeting with clinical instructors and advisory committee members to develop an action plan. The advisory committee meeting will be held November 2018. We believe the trend will rise for the class of 2018. Since 2018 employer's evaluation of new hires have remained positive. For 2020 one new hire received a 2 in the category of critical thinking but no additional information was received to understand the reasoning for lower score. All comments have remained positive. Will continue to monitor.

Benchmark for clinical testing trended down and benchmark was not met. Will provide students with review of clinical testing and a study guide prior to testing. We believe downward trend was due to covid and test being online instead of tradition in person.

Employers continue to be satisfied with our graduates. Several Columbus area hospitals have been soliciting our program regarding clinical placement. Several of our graduates have been hired in this area.

<b>Goal #3: Students will be able to communicate.</b>								
<b>Outcome</b>	<b>Measurement Tool</b>	<b>Benchmark</b>	<b>Timeframe</b>	<b>Responsible Party</b>	<b>Actual Outcome</b>	<b>Trends</b>	<b>Action Taken</b>	
Students/Graduates will demonstrate oral communication skills.	Semester Evaluation ( Communication Section)	Students will average an 85%	RAD 1200 2 <sup>nd</sup> semester RAD 2201 5 <sup>th</sup> semester	Clinical Coordinator	The class average for RAD 1200 was 88%. The class average for RAD 2201 was 90%.	2022 90% 2021 89% 2020 90% 2019 90% 2018 90% 2017 91% 2016 92% 2015 93% 2014 91%	Benchmark met. Stable trend. Student are evaluated by CC once a semester. CP twice a semester. Student feedback is communicated.	
	RAD 2050– Pathology  Oral Presentation Rubric	Students will average 19pts of a possible 24 pts	Spring Quarter Final quarter	Course Instructor	The class average for RAD 2050 was 23.12	2022 22.81 2021 23.33 2020 23.12 2019 23 2018 23.1 2017 22.08 2016 22.3 2015 22.2 2014 21.7	Updated rubric and explanations Student continue to meet the benchmark. Sample presentation are posted online for helpful resource.	
Students/Graduates will demonstrate written communication skills.	RAD 2050 Pathology  Written Presentation Rubric	Students will average 19pts of a possible 24 pts.	Spring Quarter Final quarter	Course Instructor	The class average for RAD 2050 was 22.94	2022 22.63 2021 23.2 2020 22.94 2019 21.8 2018 23.4 2017 22.08 2016 22.4 2015 21.9 2014 21.3	Updated rubric and explanations Reports are returned for necessary updates if APA guidelines are not met. . Sample reports are posted online for helpful resource.	



	Semester Evaluation (Patient History Section)	Students will average an 85%	RAD 1200 2 <sup>nd</sup> semester RAD 2201 5 <sup>th</sup> semester	Clinical Coordinator	The class average for RAD 1200 was 87%. The class average for RAD 2201 was 88%.	2022 88% 2021 86% 2020 89% 2019 89% 2018 89% 2017 90% 2016 91% 2015 90% 2014 88%	Benchmark met. Stable trend. During on campus labs students must take a patient history. This is completed at clinical sites as well.
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**Action/Analysis:** Our students do a great job with regard to communication. We believe Urgent Care rotations provide a great resource which helps develop our student's skill set. Examples of Written and Oral Communication Projects are uploaded on student learning management system as a resource. We believe this is the reason for the upward trend. Any student who does not receive a 19 or higher on the written communication rubric is asked to review report, make corrections, and resubmit. Since this policy was implemented, benchmark has been met.

<b>Goal #4: Students will model professionalism.</b>							
<b>Outcome</b>	<b>Measurement Tool</b>	<b>Benchmark</b>	<b>Timeframe</b>	<b>Responsible Party</b>	<b>Actual Outcome</b>	<b>Trends</b>	<b>Action Taken</b>
Student/Graduates will exhibit professional ethical standards together with diversity and inclusion.	Problem Solving /Decision Making Rubric	Students receive a minimum competency score of 12.75 pts out of possible 16 pts.	RAD 2201	Clinical Coordinator	The class average was a 92%.	2022 14.75 2021 14.2 2020 15.1 2019 14.3 2018 15.1 2017 15.25 2016 15.5 2015 15.5 2014 14.4	All students met the benchmark. Stable trend. Critical thinking exercise assignment each semester proven to be an effective tool.

Students/Graduates will summarize their professional obligations upon gaining their ARRT.	Semester Evaluation Form ( Professional Section)	Students will average an 85%	RAD 1200 2 <sup>nd</sup> semester RAD 2201 5 <sup>th</sup> semester	Clinical Coordinator	The class average for RAD 1200 was 88%. The class average for RAD 2201 was 89%.	2022 89% 2021 89% 2020 92% 2019 90% 2018 90% 2017 91% 2016 91% 2015 91% 2014 90%	Benchmark met. Stable trend. Student complete professionalism rubric at the end of each year.
	College Graduate Competency- Professionalism Rubric	Students receive a minimum competency score of 41.6 pts out of possible 52 pts.	RAD 1200 (2 <sup>nd</sup> semester) RAD 2201 (5 <sup>th</sup> semester)	Clinical Coordinator	The class average for RAD 1200 was 93%. The class average for RAD 2201 was 93%.	2022 48.125 2021 47.47 2020 50.3 2019 14.35 2018 15.1 2017 15.25 2016 15.5 2015 15.75 2014 14.7 2012 16.4 2011 14.92	All students met the benchmark. Stable trend. Student complete professionalism rubric at the end of each year.

Outcome	Measurement Tool	Benchmark	Timeframe	Responsible Party	Results	Trends
Graduates will be satisfied with their education.	Graduate Survey Question 17 & 18	Survey results will indicate an average $\geq 3.2$ on a scale of 0-4.	Last week of classes	Program Director	2022 3.66% 2021 3.67% 2020 3.94% 2019 3.94% 2018: 3.94% 2017 : 90 %- 3.45% 2016:99.25%-3.97% 2015: 3.46% 2014: 93.3%- 3.41% 2013: 100%	Students continue to be satisfied with their education.

					2012: 100%	
Employers will be satisfied with the performance of newly hired technologists	Employer Survey	Survey results will indicate an average $\geq 3.2$ on a scale of 0-4.	12 months post-graduation (or upon completion by all)	Program Director	2022 3.842 2021 3.956 2020 3.559 2019: 3.748 2018: 3.524 2017: 2.62 2016: 3.902 2015: 3.82 2014: 3.2 2013: 3.975 2012: 3.923	Employers continued to be satisfied with our graduates. Recently 2 clinical facilities approached us regarding procurement of student clinical rotations because of the skill level of MTC graduates.

**Action/Analysis:**

Graduates seem to be satisfied with their education.

The employer satisfaction score dropped. The graduating class displayed difficult personalities during the classroom and clinical settings. We will continue to monitor this issue. We are working with clinical instructors and advisory committee to implement an action plan to improve scores with regard to critical thinking skills.

The college updated the college graduate competencies for the professionalism and problem solving/decision making rubric. The rubric is now out of a possible 52 points. The benchmark is 41.6 points which equates to a 80%.

Employer satisfaction benchmark continues to be met. Employers are satisfied with the performance of new hires. Employers have approached MTC regarding clinical sites because of new hire performance.