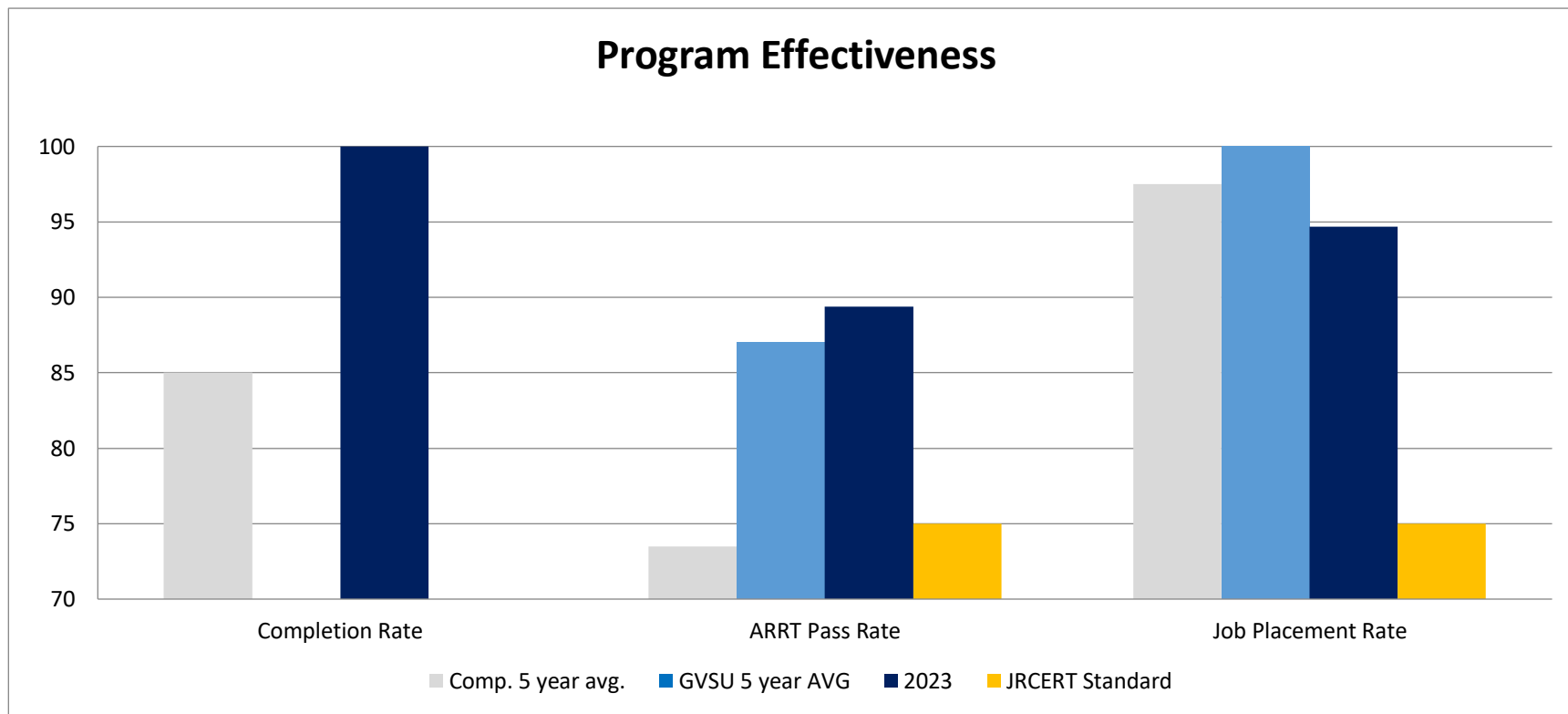# EXECUTIVE SUMMARY of STUDENT LEARNING OUTCOMES

Radiation therapy is a radiologic imaging sciences specialty that is one of the disciplines in a radiation oncology center. Radiation therapists practice in a cooperative effort between medical and radiation oncology physicians, medical physicists, dosimetrists, oncology nurses and

Program Effectiveness

	Completion Rate	ARRT Pass Rate	Job Placement Rate
Comp. 5 year avg.	85	73.5	97.5
GVSU 5 year AVG		87	100
2023	100	89.4	94.6
JRCERT Standard		75	75

Legend: Comp. 5 year avg. ■ GVSU 5 year AVG ■ 2023 ■ JRCERT Standard

dietitians. Radiation therapists are responsible for accurately recording, interpreting, and administering the treatment prescribed by radiation oncologists. Radiation therapists help physicians use multiple imaging modalities including; fluoroscopy, x-ray, and/or computed tomography to localize and outline anatomical areas for treatment and patient alignment. These responsibilities require highly specialized clinical skills as well as complex critical thinking in order to effectively contribute to the team approach of patient centered treatment.

Program Effectiveness

Program Effectiveness Measure and Performing Standard	Data Collected	Analysis
Annual program completion rate class of 2023. There is no performance standard for this measure.	14/14 = 100%	Admitted 17 students, and 14 completed. 3 students withdrew from the program for personal reasons.
ARRT Certification Board examination pass rate (class of 2023). Performance standard, 75% pass rate on 1st attempt within six months of graduation.	13/14= 93%	13/14=93% of students passed on the first attempt, 1 student has since taken the exam a second time and passed.
Job placement rate (class of 2022). Performance standard, 75% of active job seekers will be placed within 12 months of graduation. This standard includes students that have gone back to school, and excludes those not willing to move for employment.	19/19 = 100%	19/19 of the 2022 graduates "actively seeking employment" per accreditation definition are either employed or in school one year post graduation. One graduate has not passed the ARRT exam, and was previously employed in the field.
Graduate satisfaction (class of 2022). Performance standard set by program; 95% of returned graduate surveys will rate satisfaction as 3 or higher, on a 1-5 Likert scale.	2/3=67% (graduate survey) 14/14=100% (exit survey)	Class of 2022 (graduate survey) 2/3=67% ranked their satisfaction with the program as Very Good (n=2) and Fair (n=1) Class of 2023 (exit survey) 14/14=100% ranked their preparedness as an entry level RTT by the program as Strongly Agree (n=4), Agree (n=9, and Neutral (n=1)
Employer satisfaction (class of 2022). Performance standard set by program; employers will rank graduates "above average" in OVERALL QUALITY measure.	8/9=89%	Class of 2022, Of the returned employer surveys ranked graduates as "Excellent" (n=5), "Very Good" n=3, & "Good" (n=1).

Provide a response to last year's Advisory Board review of the program's Effectiveness report:

- The Class of 2023's ARRT exam scores are comparable to the Class of 2022. There were increases in 3 of the 8 content

areas of the exam (Pt Interactions & Mgmt (8.4 vs 8.7) Pt & Med Record Mgmt (8.4 vs 8.0), Rad Physics & Radbio (7.8 vs 7.8) Rad Prot/Equip/QA, Rad Protection (7.9 vs 7.9), Treatment Sites & Tumors (7.9 vs 8.6), Tx Vol localization (8.7 vs 8.4), Rx & Dose Calculation (8.2 vs 7.8), Treatments (8.2 vs 8.2). There was a decrease in Treatment sites & tumors and a slight decrease in Pt. Interactions and Mgmt. Rad Phy & Radbio,, Rad Prot/Equip/QA, Rad Protection, & Treatments scores were the same for the Class of 2022 & 2023.

Describe how the program's outcomes support GVSU mission, strategic plan, and relevant school plan:

The program's mission is to provide competent, entry level Radiation Therapists who shape their profession, society, and lives of the communities which they serve through appropriate clinical and didactic educational experiences.

The program provides students opportunities to develop technical knowledge and personal skills necessary for a career in the radiation sciences. The College of Health Professions has recently updated the mission, vision, and values of the college. Also, the School of Interdisciplinary Health has updated it's mission to align with all of the programs housed within it. The program re-evaluated its mission at the August 2023 RT assessment committee.

List all of the program's goals:

Learning Outcome	Year of Last Assessment	Assessed This Year	Year of Next Planned Assessment
Students will demonstrate clinical competence	FY 21-22	AY 22-23	2024
Students will develop critical thinking and problem solving skills	FY 21-22	AY 22-23	2024
Students will communicate effectively to patients and healthcare professionals	FY 21-22	AY 22-23	2024
Students will demonstrate professional behavior in clinical areas and the profession	FY 21-22	AY 22-23	2024

Outcomes and Past Assessment

Programmatic Goal 1: Students will demonstrate clinical competence

Is this outcome being reexamined? X Yes   No

Assessment Activity

Outcome Measures *Explain how student learning will be measured and indicate whether it is direct or indirect.*	Performance Standard *Define and explain acceptable level of student performance.*	Data Collection *Discuss the data collected and student population*	Analysis 1) *Describe the analysis process.* 2) *Present the findings of the analysis including the numbers participating and deemed acceptable.* 3) *Historical data for comparison*
Students will appropriately simulate treatment delivery.	90% of lab evaluations will score 3 or higher on a Likert 1-5 scale, for the objective of "**Evaluate accuracy of machine parameters**".	Collection will be during the 1st semester throughout RIT 331 (class of 2024)	Average scores were calculated from lab evaluations Class of 2024: 91/104 (87.5%) benchmark not met Class of 2023,115/120 (95.8%), 2 completed by students no longer in the program met the benchmark Class of 2022, 133/133 (100%) Class of 2021: 133/133 (100%) met the benchmark; all students score a 4 or 5 on evaluation. Class 2020: 133/133 (100%) met the benchmark Class 2019: 117/117 (100%) met the benchmark
		4th semester throughout RIT 431 (class of 2023)	Class of 2023: 94/97 (97%) met the benchmark Class of 2022: 132/133 (99.2%) met the benchmark Class of 2021: 137/137 (100%) met the benchmark Class 2020: 115/115 (100%) met the benchmark 1) – program suggests changing second measure to 4 out of 5.
Students will demonstrate correct positioning of patients for treatment.	95% of clinical evaluations will score "fair" or better on student's first clinical evaluation for "**ORGANIZATION OF DUTIES:** Logical & efficient performance". Fair is considered our minimum acceptable score.	Collection will be in the 2nd semester after 1st clinical evaluation (class of 2024).	Trajecsys was used to collect and tally the data from previous semester evaluations Class of 2024: 100% met the benchmark Class of 2023: 100% met the benchmark (Total avg=92.9; range 85.7-100) Class of 2022 100% met goal, this was 1st eval but in 3rd semester, Class of 2021: 67/68 (98.5%) met the benchmark {64/68 Good or excellent}, this first eval was in the 3rd semester due to COVID Class of 2020:52/52 (100%) met the benchmark, {31/52, 60% "good" or "excellent"}

		3rd semester after 2nd clinical evaluation (class of 2024).	Class of 2024: 100% met the benchmark Class of 2023: 100% met the goal of "Fair" or better. 14/15 met "Good" or better. Avg score=93.6 (range 87.9-100) Class of 2021: data came from 4th semester eval (#2) 67/67=100% of evals were fair or higher; 66/67 (98.5%) of evals were "good" or "excellent". Class of 2022 are currently in their 2nd semester of clinical/4th semester in the program. Should be back on track with normal collection of this measure with the Class of 2023. Class of 2020: 65/68 (96%) met the benchmark, {58/68, 85.2 "good" or "excellent"}
Students will illustrate correct simulation of a variety of patients	95% of clinical evaluations will score "fair" or better on student's 2nd clinical evaluation for "**ADAPTABILITY:** Achievement of routine procedures on non-routine patients".	Collection will occur during the 2nd clinical evaluation, completion of the 3rd semester (class of 2024).	Trajecsys was used to collect and tally the data from clinical evals. Class of 2024: 100% met the benchmark Class of 2023: 100% met the benchmark. Avg=93% (range 82.1-99.2) Class of 2022; 100% met benchmark, collected from 3rd semester 1st eval Class of 2021: 68/68 (100%) met the benchmark – data from first eval 3rd semester. Class of 2020: 65/68 (96%) met the benchmark, * same 3 evals as above
	95% of clinical evaluations will score "good" or better on student's last clinical evaluation for "**ADAPTABILITY:** Achievement of routine procedures on non-routine patients".	Collection will occur during the last clinical evaluation, completion of the 5th semester (class of 2023).	Trajecsys was used to collect and tally the data from clinical evals. Class of 2023: 54/56=96% (benchmark met) Class of 2022: 70/71=98.6% (benchmark met) Class of 2021: 61/61=100% benchmark met Class of 2020: 70/75=93.3% benchmark not met. Class of 2019: 132/133 (99%) met the benchmark

Interpretation of Results

Extent this learning outcome has been achieved by students:

- The Class of 2023 and 2024 met the benchmark for most SLO's. The Class of 2024 did not meet the benchmark for Goal 1/SLO 1. Previous classes have also met the benchmark for these SLO's. The program suggests to increase the benchmarks for SLO 1/Goal 2 to "Good" from "Fair" and SLO 2/Goal 2 from "Fair" to "Good" in the 3rd semester and "Good" to "Excellent" in the 5th semester. The program suggests to keep the benchmark for Goal 1/SLO 1 and re-evaluate with the next assessment cycle.
-
- **Program strengths and opportunities for improvement <u>relative to assessment of outcome:</u>**
  The program feels that increasing these benchmarks for these SLO's permits the opportunity for continued improvement.

Discuss planned curricular or program improvements <u>for this year based on assessment of outcome:</u>
The program will solicit advisory board feedback for suggestions.

Programmatic Goal 2: Students will develop critical thinking and problem solving skills

Is this outcome being reexamined? **X** Yes   No

Assessment Activity

Outcome Measures *Explain how student learning will be measured and indicate whether it is direct or indirect.*	Performance Standard *Define and explain acceptable level of student performance.*	Data Collection *Discuss the data collected and student population*	Analysis *1) Describe the analysis process.* *2) Present the findings of the analysis including the numbers participating and deemed acceptable.* *3) Historical data for comparison*
Student will compare current treatment images to treatment plan and determine accuracy of positioning.	Students will successfully pass IGRT competencies during their clinical rotations throughout the program (At least one completed by the 3rd semester and 2 or more by the 5th semester).	Data will be collected following the 3rd semester.	Trajecsys was used to collect and tally the data from completed comps during time frame using "study" filters Class of 2024: 100% met the benchmark Class of 2023: 15/15 (100%) met this benchmark Class of 22; 18/19 (95%), all 18 passed first try; there was only one semester of data collection for this outcome due to the delay in beginning clinical education for this cohort. 3) Class of 2021: 16/19 (84%) – attempted and 16/16

			(100%) passed. 4) Class of 2020: 15/18 (83.3%) had 1 completed, new measure for 18-19 assessment
		Data will be collected following the last clinical rotation (5th semester).	Class of 2023: 100% met the benchmark 1) Class of 2022: 19/19 (100%) met the benchmark 1) Class of 2021: 18/18 (100%) met the benchmark 2) Class 2020: 19/19 (100%) met the benchmark 3) Class of 2019: 17/17 (100%) met the benchmark
Students will propose treatment plans for the treatment of breast cancer	Scores >90% on the breast problem based learning assignment (PBL) will indicate students use systematic reasoning to examine and evaluate information and ideas and then synthesize their conclusions to propose new perspectives and solutions	Data will be collected following the Fall semester, RIT 430 course (class of 2023).	Using 90% as "good" to equate it to other measures, evaluation and tally of these scores from Bb grade book completed Class of 2023: 13/14=93% benchmark met Class of 2022: 18/19=94.7% benchmark met (Avg=93%; range 88-98%) Class of 2021; 12/19 (63%): benchmark not met Class of 2020: 10/19 (53%), discuss benchmark at ABM Class of 2019: 16/17 (94%) met the benchmark

Interpretation of Results

Extent this learning outcome has been achieved by students:

- The Class of 2023 and 2024 met the benchmark established for outcomes measured.
-
- **Program strengths and opportunities for improvement** <u>relative to assessment of outcome</u>**:**

Program suggests to keep benchmark for Goal 2/SLO 2 the same for one more assessment cycle and re-evaluate with the 2023-24 cycle.

Discuss planned curricular or program improvements <u>for this year based on assessment of outcome</u>:

Program suggests to create an imaging lab using the VERT. Program faculty will need to work with lab adjunct faculty to create this and look into if curriculum changes through SAIL and subsequent College Curriculum Committee (CCC) approval to implement (if needed).

Programmatic Goal 3: Students will communicate effectively to patients and healthcare professionals

Is this outcome being reexamined?   X Yes   No

Assessment Activity

Outcome Measures *Explain how student learning will be measured and indicate whether it is direct or indirect.*	Performance Standard *Define and explain acceptable level of student performance.*	Data Collection *Discuss the data collected and student population*	Analysis *1) Describe the analysis process.* *2) Present the findings of the analysis including the numbers participating and deemed acceptable.* *3) Historical data for comparison.*
Students will describe procedures to patients	95% of clinical evaluations will score "fair" or better on student's first clinical evaluation for "**COMMUNICATION SKILLS:** Interpersonal skill with **patients**". Fair is considered our minimum acceptable score.	Collection will be in the 2nd semester after 1st clinical evaluation (class of 2024).	Trajecsys was used to collect and tally the data from previous semester evaluations. "Fair" is considered minimum competence Class of 2024: 100% met the benchmark Class of 2023: 100% met the benchmark (Avg=93.2; range 85.3-100) Class of 2022: 100% met benchmark Class of 2021: 68/68 (100%) {62/68 > Good} met the benchmark 4) class of 2020: 66/66 (100%) met the benchmark
	95% of clinical evaluations will score "good" or better on student's last clinical evaluation for "**COMMUNICATION SKILLS:** Interpersonal skill with **patients**".	Collection will occur during the last clinical evaluation, completion of the 5th semester (class of 2023).	Trajecsys was used to collect and tally the data from previous semester evaluations. "good" is considered appropriate competence in this skill for this stage of the program. Class of 2023:56/56 (100%) met the benchmark Class of 2022: 70/70 (100%) met the benchmark Class of 2021: 61/61 (100%) met the benchmark Class of 2020: 71/75 (94.7%) met the benchmark Class 2019: 129/133 (97%) met the benchmark
Students will communicate effectively with healthcare staff	95% of clinical evaluations will score "fair" or better on student's first clinical evaluation for "**COMMUNICATION SKILLS:** Interpersonal skill with **staff**". Fair is considered our minimum acceptable score.	Collection will be in the 2nd semester after 1st clinical evaluation (class of 2024).	Trajecsys was used to collect and tally the data from previous semester evaluations. "Fair" is considered minimum competence Class of 2024: 100% met the benchmark Class of 2023: 100% met benchmark. Avg=94.8 (range 90.5-100) Class of 2022; 100% met benchmark, 1 student averaged fair Class of 2021: 65/68 (95.6%) met the benchmark {61/68 > Good} Class of 2020: 66/66 (100%) met the benchmark

	95% of clinical evaluations will score "good" or better on student's last clinical evaluation for "**COMMUNICATION SKILLS:** Interpersonal skill with **staff**".	Collection will occur during the last clinical evaluation, completion of the 5th semester (class of 2023).	Trajecsys was used to collect and tally the data from previous semester evaluations. "good" is considered appropriate competence in this skill for this stage of the program <mark>Class of 2023: 56/56 (100%) met the benchmark</mark> Class of 2022: 70/70 (100%) met the benchmark Class of 2021: 60/61 (98.4%) met the benchmark Class of 2020: 71/75 (94.7%) met the benchmark Class of 2019: 129/133 (97%) met the benchmark
Students will Demonstrate effective formal presentation skills.	100% of students will make effective use of eye contact, voice projection, pacing and language choices that are appropriate for the assignment placing them in the "proficient" category	Collection will occur following in class presentations in RIT 330, 1st semester (Class of 2024)	Rubric for this SLO which was provided by the GVSU General Education Committee which ranks the student as proficient, progressing, or baseline. <mark>Class of 2023 & 2024: 100% met the benchmark</mark> Class of 2022:19/19 (100%) met the benchmark; Class of 2023: 17/17 (100%) met the benchmark Class of 2021: Classes were virtual/remote still for Winter 2021; data not collected.
		Collection will occur following in class presentations in RIT 432, 5th (final) semester (class of 2023)	Class of 2020: Due to COVID-19, classes went remote for the last half of Winter 2020, presentations were not done in RIT 432. The program will re-evaluate with the Class of 2021. Class of 2019: 17/17 (100%) met the benchmark

Interpretation of Results

- **Extent this learning outcome has been achieved by students:** Class of 2023 & 2024 met the benchmark for this Goal & SLO. The previous classes have also met the benchmark as well. The program suggests to increase the benchmarks for SLO 1 & SLO 2/Goal 3 to "Good" from "Fair" and SLO 2/Goal 2 from "Fair" to "Good" in the 2rd semester and "Good" to "Excellent" in the 5th semester. For Goal 3/SLO 2 the program did not initially have the first semester of data collection. An addendum to last year's assessment plan was sent out to the advisory board earlier this year with the update.

Program strengths and opportunities for improvement <u>relative to assessment of outcome</u>: -
    The program feels that increasing these benchmarks as it permits the opportunity for continued improvement.

 Discuss planned curricular or program improvements <u>for this year based on assessment of outcome:</u>

This assessment cycle is the second time the program has had a second timeframe of collection for Goal 3, SLO 3. The program suggests to leave the benchmark as it is for at least one more assessment cycle before any changes should be made.

Programmatic Goal 4: Students will demonstrate professional behavior in clinical areas and the profession

Is this outcome being reexamined?   **X** Yes   No

Assessment Activity

Outcome Measures *Explain how student learning will be measured and indicate whether it is direct or indirect.*	Performance Standard *Define and explain acceptable level of student performance.*	Data Collection *Discuss the data collected and student population*	Analysis *1) Describe the analysis process.* *2) Present the findings of the analysis including the numbers participating and deemed acceptable.* *3) Historical data for comparison*
Students will demonstrate professional behavior	95% of clinical evaluations will score "good" or better on student's clinical evaluation for "**PROFESSIONAL CONDUCT:** Mannerisms, cleanliness, neatness".	Collection will be in the 2nd semester after 1st clinical evaluation (class of 2024).	Using the Trajecsys student reporting system, a report of the class of 18 students was run from March –May (time of evaluation) with evaluation of the responses for "Professional conduct". Class of 2024: 100% met the benchmark; Avg=96.3 1) Class of 2023: 100% met benchmark (Avg=97.8; range 94.4-100) 2) Class of 2022; 100% met benchmark, 13 student averaged excellent 3) Class of 2021: 67/68 (99%) benchmark met {54/68 79% $\geq$ Excellent}, data from 3rd semester 1st final evaluation 4) Class of 2020: 57/66 (86%) benchmark not met
	95% of clinical evaluations will score "excellent" on student's clinical evaluation for "**PROFESSIONAL CONDUCT:** Mannerisms, cleanliness, neatness".	Collection will be in the 5th semester after 4th clinical evaluation (class of 2023).	Class of 2023: 52/56=93% benchmark not met Class of 2022: 63/72=87.5% **benchmark not met** Class of 2021: 60/61 (98.4%) met the benchmark Class of 2020: 50/65=77% benchmark not met Class of 2019: 78/98 (80%) benchmark not met {95/98 (97%) reported "Good" or better} Class of 2018: 82/103 (80%) benchmark not met
Students will integrate networking into program and profession.	All students (class of 2024) will participate in student essay and poster competition at the state or national level.	Data will be collected at the end of Fall semester each year.	Class of 2024: All 4th year students attended the MSRT conference and submitted essays for the student competition Class of 2023: All 4th year students attended the MSRT conference and submitted essays for the student competition. Class of 2022: Due to the students' delay in beginning clinic, the poster/essay was not completed for this cohort. The students did attend either the MSRT or ASRT conference

			Class of 2021: Due to COVID-19, the MSRT conference was canceled. The program will re-evaluate this outcome with the Class of 2022. Class of 2020: 0/19 (0%) benchmark not met

Interpretation of Results

Extent this learning outcome has been achieved by students *(Use both direct and indirect measure results)***:**
The Class of 2023 did not meet the benchmark. This particular Goal & SLO in the last semester has not been consistently achieved for several assessment cycles.
The Classes of 2024 & 2025 all attended the MSRT conference in September 2023. The Class of 2024 (4th year students) all submitted essays for the student competition.

Program strengths and opportunities for improvement <u>relative to assessment of outcome</u>:
The program suggests to keep the benchmark as a Goal. The JRCERT has recently removed measuring professionalism from assessment, however we will still evaluate this going forward.

Discuss planned curricular or program improvements <u>for this year based on assessment of outcome:</u>
The program will discuss this further in the CI meeting after the advisory board meeting. The program will also review the professionalism checklist with the current 3rd year students at their handbook review which will occur on December 6, 2023.