Indiana University-Indianapolis Diagnostic Sonography Program

Program Student Learning Outcomes
Abdominal Sonography-Extended Concentration

Academic Years in this Report: 2021, 2022, 2023, 2024

Date of Report Completion: October 2022, March 2023, October 2023, March 2024

Goal #1: Graduates will demonstrate clinical competency.				
Outcome	**Course**	**Assessment Tool**	**Benchmark**	**Results**
Students will effectively perform diagnostic ultrasound procedures. (Psychomotor)	*RADI-R 484 Clinical Practicum DMS III (2nd year FA) *Starting SU 2024 course title change to RADI-S 453 Medical Sonography Clinical Practicum III	Q16 of clinical eval "Overall Clinical Competence and Performance Evaluation Criterion"	Minimum class average score of 3.5 out of 4.0	4.0 (Class '21) 4.0 (Class '22) 3.44 (Class '23)
Analysis and Action Plan Class '21: New program outcome. Benchmark is equivalent to a B, which we felt was a good starting point. We will review class of '22 results to determine if results are still within the benchmark. We will consider changing the benchmark next year. Class '22: Results are at the highest evaluation level. This is a very talented cohort of students. We will keep the benchmark but will look at next year's results to determine if the 4.0 score is due to grade inflation from clinical site or if it's from student talent. Class '23: One student was evaluated twice during the semester. Both evaluations scored the student at 2/4 points for this question, bringing the overall results lower than the benchmark. Considering the previous 2 years was above the benchmark, we will continue to monitor the benchmark for appropriateness.				
Students will demonstrate appropriate knowledge of ultrasound procedures (Cognitive)	*RADI-S 420 Medical Sonography Procedures (1st year FA) *Course RADI-R 351 Ultrasound Principles I for Class of '23 and previous	Average score of all tests	Minimum class average of 85%.	92.2% (Class '21) 95.4% (Class '22) 99.5% (Class '23) 90.5% (Class '24)
Analysis and Action Plan Class '21: New program outcome. Benchmark reflects all tests which covers all material specific to procedures taught for that course. We will review class of '22 results to determine if this benchmark still reflects the outcome. Class '22: Results increased from last year. This cohort had a new instructor for this course. A weekly review of the material was added before students started scanning in the lab. Instructor also increased the number of tests, so students were tested over less material per test. Class '23: Results increased from last year. Since this student cohort is very talented, we will look at next year's benchmark to determine if there is a recurring trend of results. Class '24: Results decreased from last year. There are only 4 students in this cohort, therefore scores may be affected by the smaller student count. We will continue to monitor the benchmark.				

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Goal #2: Graduates will demonstrate effective communication skills.				
Outcome	**Course**	**Assessment Tool**	**Benchmark**	**Results**
Students will use effective oral communication skills with patients and clinical staff. (Affective)	*RADI-R 382 Clinical Practicum DMS II (1st year SP) *Starting Spring 2024 course title change to RADI-S 452 Medical Sonography Clinical Practicum II	Average score from Ultrasound Clinical Eval Q8 "Interpersonal Skills with Patients" and Q9 "Interpersonal Skills with Staff/Other Medical Personnel"	Minimum class average score of 3.5 out of 4.0	4.0 (Class '21) 3.75 (Class '22) 3.97 (Class '23)

Analysis and Action Plan

Class'21: These skills were evaluated as one question in the clinical evaluation. We believe this does not reflect each of these as separate communication skills. We will separate this criterion into 2 criteria for '22. The benchmark reflects a B score, which we felt was a good starting point.

Class '22: The criteria were separated in the clinical evaluation to better reflect these as separate communication skills. The class average was lower, but we will review that results next year to determine if this a reflection of the different student cohort or if it is from the criterion being separate questions within the evaluation.

Class '23: Results increased from last year. Since this student cohort is very talented, we will look at next year's benchmark to determine if there is a recurring trend of results.

Students will demonstrate effective written communication skills (Cognitive)	*RADI-S 410 Sonography Orientation (1st year SU) * Course RADI-R 360 Introduction to DMS Projects for Class of '23 and previous	I Ought to Research That! Assignment	Minimum class average score of 22 out of 25 points	N/A (Class '21) 24.5 (Class '22) 24.7 (Class '23) 24.9 (Class '24)

Analysis and Action Plan

Class '21: This assignment was not instituted in 2021. The outcome could not be assessed because there was no written assessment tool available. Will institute a written assignment to assess students' ability to demonstrate effective written communication skills.

Class '22: New program assessment tool. We chose this benchmark as it reflected a B grade, which we felt was a good starting. We will continue to monitor the results to determine if 24.5 was due to student talent or if this average grade is typical for this assignment.

Class '23: There were 8 students in this cohort compared to 4 students in Class '22 cohort. Since the average is approximately the same as last year, we believe this benchmark should be readily achievable. However, we will continue to monitor the results for consistency as the class of '23 generally earned higher grades throughout the program.

Class'24: This cohort scored higher than typical for this benchmark. With 3 years of data and the benchmark readily achievable, we will monitor whether the benchmark should be raised in the future.

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Goal #3: Graduates will think critically and apply problem solving skills in a scanning environment.				
Outcome	**Course**	**Assessment Tool**	**Benchmark**	**Results**
Students will think critically, and problem solve imaging strategies to obtain high quality images. (Psychomotor)	*RADI-R 363 DMS Lab II (1st year SP) *Starting Spring 2024 course title change to RADI-S 432 Medical Sonography Lab II	Right Upper Quadrant Skills Assessment	Class average score of 90%	93.2% (Class '21) 92.6% (Class '22) 97.7% (Class '23)
Analysis and Action Plan Class '21: We started with a benchmark of a 90% class average score as it represents a B grade. One out of five students fell below the benchmark. The grading scale was out of 10 points even though the total number of points for the assessment was 222. If the score was between certain number of points, the student was given a corresponding score based out of 10 points. This was too confusing for lab evaluators, so we will change the scoring to be number scored divided by the total possible points. We went back to the evaluations and recalculated the students score based on number scored divided by total possible points to determine average percent score. We will continue to monitor results to determine if this benchmark reflects typical student scores. Class '22: The same assessment evaluation was used as 2021; however, the scoring system was changed to reflect the number scored divided by the total possible points. This scoring system was much easier for lab evaluators and better reflected the students true score for the assessment. 2 of the 4 students in this cohort scored just below the benchmark. Class '23: The results went up by nearly 5%. Since this student cohort is very talented, we will look at next year's benchmark to determine if there is a recurring trend of results.				
Students will evaluate images for differential diagnoses. (Cognitive)	*RADI-S 431 Medical Sonography Lab I (1st year FA) *Course RADI-R 362 DMS Lab I for Class of '23 and previous	Anatomy/Pathology In-Class Assignments	Minimum class average score of 90% for all Anatomy/Pathology assignments.	N/A% (Class '21) 100% (Class '22) 100% (Class '23) 100% (Class '24)
Analysis and Action Plan Class '21: These assignments were in-class assignments that were not scored. After analysis of this no-grade assignment, we determined the students' time and effort on these assignments were significant enough to warrant a grade. We will implement a grade for each of these assignments for 2022. Class '22: We added a scoring system for this assignment based on effort and completion as this is group activity. Each assignment score is based out of 20 possible points. Class '23: These assignments were graded on effort for completing the assignment rather than percent of correct answers. Class '24: These assignments were graded on effort for completing the assignment rather than percent of correct answers. These assignments will be changed to better align with a cognitive domain outcome and will be scored based on percent of correct answers.				

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Goal #4: Graduates will demonstrate professional values.				
Outcome	**Course**	**Assessment Tool**	**Benchmark**	**Results**
Students will demonstrate appropriate professional values in the clinical setting. (Affective)	*RADI-S 451 Medical Sonography Clinical Practicum I (1st year FA) *Course RADI-R 381 Clinical Practicum I for Class of '23 and previous	Average score from Ultrasound Clinical Eval Q3 "Student works as a Team Member" and Q4 "Student is Respectful and Considerate"	Minimum class average score of 3.5 out of 4	3.7 (Class '21) 3.95 (Class '22) 4.0 (Class '23) 3.91 Class '24)
Analysis and Action Plan Class '21: We started with a benchmark of 3.5 as this is a B grade. The evaluation questions are question 11 and question 16 in this cohort's evaluation. The evaluation will be revised to better clarify the criterion and to modify or add questions to reflect clinical skills. Class '22: The evaluation has been changed. The questions are now questions 3 and 4 on the current evaluation. The score has increased from last year. We will monitor whether this is due to the student talent or from better clarification of the criterion. Class '23: The results have increased slightly from last year. We believe this benchmark should be readily achievable. We will continue to monitor the results for consistency throughout the upcoming cohorts. Class '24: Results are slightly lower than last year, but overall, very high. We will continue to monitor benchmark.				
Students will demonstrate an understanding of ethical obligations as described in the ARDMS Code of Ethics and Scope of Practice. (Cognitive)	*RADI-S 410 Sonography Orientation (1st year SU) *Course RADI-R 360 Introduction to DMS Projects for Class of '23 and previous	Scope of Practice, Clinical Standards, and Code of Ethics Assignment	Minimum class average of 22 out of 25 points	N/A (Class '21) 23.75 (Class '22) 24.4 (Class '23) 23.75 (Class '24)
Analysis and Action Plan Class '21: There was no outcome that addressed the students' cognitive ability to understand their obligations to the Code of Ethics or Scope of Practice. As a new Program Director, I will add an outcome and institute an assignment to assess this skill. Class '22: This outcome was added, and an assignment created in R360 to specifically address the Code of Ethics and Scope of Practice NEC curriculum guidelines. We chose a benchmark of 22 as this reflects a B grade. We will continue to monitor this new outcome and benchmark for any possible modifications. Class '23: Since the average is slightly higher than last year, we believe this benchmark should be readily achievable. However, we will continue to monitor the results for consistency as the class of '23 generally earned higher grades throughout the program. Class '24: The benchmark seems to be consistent for the last 3 cohorts. Will continue to monitor the benchmark.				

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Goal #5: Graduates will have the knowledge of professional development opportunities.				
Outcome	**Course**	**Assessment Tool**	**Benchmark**	**Results**
Students will demonstrate knowledge of professional development resources. (Cognitive)	*RADI-S 410 Sonography Orientation (1st year SU) *Course RADI-R 360 Introduction to DMS Projects for Class of '23 and previous	Professional Development Resource Scavenger Hunt Assignment	Minimum class average score of 90%	N/A (Class '21) 92% (Class '22) 100% (Class '23) 100% (Class '24)
Analysis and Action Plan Class '21: There was no outcome that addressed the students' cognitive ability to understand resources available for professional development. As a new Program Director, I will add an outcome and institute an assignment to assess this skill. Class '22: This outcome was added, and an assignment created in R360 to specifically address the professional development resources NEC and Accreditation curriculum guidelines. We chose a benchmark of 90% as this reflects a B grade. We will continue to monitor this new outcome and benchmark for any possible modifications. Class '23: There were 8 students in this cohort compared to 4 students in Class '22 cohort. Since the average is higher than last year, we believe this benchmark should be readily achievable. However, we will continue to monitor the results for consistency as the class of '23 generally earned higher grades throughout the program. Class '24: Results stayed consistent with last year's cohort. Since class of '22 was close to the benchmark, we will continue to monitor for the next few years.				

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Goal #6: To prepare competent entry-level sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for the Abdomen-Extended concentration.				
Outcome	**Course**	**Assessment Tool**	**Benchmark**	**Results**
Students will successfully complete the program in 18 months. (Affective)	N/A	Number of students recommended for graduation.	70% of students who entered the program will graduate on time.	100% (Class '21) 100% (Class '22) 88% (Class '23)
Analysis and Action Plan Class '21: The benchmark was set to reflect the accreditation standard for student retention. The program has seen historically very low rate of student drop off rates. We anticipate the student retention rate will remain high. Class '22: The student retention rate was consistent with our historical trends. We anticipate the student retention rate to remain high. Class '23: 7 of 8 students was recommended for December graduation. 1 student completed the program in February (20 months) and was recommended for May graduation.				
Students will express confidence in the overall quality of skills learned while in the program. (Affective)	N/A	Post-Graduation Survey question 22 "Overall program quality and preparation as an entry-level sonography rating question"	80% of students will rate the program as Good or Excellent	100% (Class '21) 100% (Class '22) 100% (Class '23)
Analysis and Action Plan Class '21: We chose to include the 'Good' ranking in this benchmark since some people rarely use the highest rating on surveys. Also, this cohort had a change of Program Director in the middle of their program, therefore we weren't sure how that may have impacted students' ranking of the program. We will monitor this benchmark to determine if we should keep or discontinue using the 'Good' ranking. Class '22: This was the first class to start and end with the new Program Director, however many changes were made to align the program with accreditation standards during their time in the program. We were unsure how this would affect the overall ranking of the program. Class '23: 1 student rated the program as good, but she rated almost all questions as good. The rest of the students rated the program as excellent. We will continue to monitor the benchmark.				