Indiana University-Indianapolis Diagnostic Sonography Program

Program Student Learning Outcomes
Abdominal Sonography-Extended Concentration

Academic Years in this Report: 2021, 2022

Date of Report Completion: October 2022, March 2023

Goal #1: Graduates will demonstrate clinical competency.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Course</th>
<th>Assessment Tool</th>
<th>Benchmark</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will effectively perform diagnostic ultrasound procedures.</td>
<td>*RADI-R 484 Clinical Practicum DMS III (2nd year FA)</td>
<td>Q16 of clinical eval &quot;Overall Clinical Competence and Performance Evaluation Criterion&quot;</td>
<td>Minimum class average score of 3.5 out of 4.0</td>
<td>4.0 (Class '21)</td>
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<tr>
<td>(Psychomotor)</td>
<td>*Starting SU 2023 course title change to RADI-S 453 Medical Sonography Clinical Practicum III</td>
<td></td>
<td>4.0 (Class '22)</td>
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<tr>
<td>Analysis and Action Plan</td>
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<tr>
<td>'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.</td>
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<tr>
<td>'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.</td>
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<tr>
<td>Students will demonstrate appropriate knowledge of ultrasound procedures (Cognitive)</td>
<td>*RADI-R351 Ultrasound Principles (1st year FA)</td>
<td>Average score of all tests</td>
<td>Minimum class average of 85%.</td>
<td>90.5% (Class '21)</td>
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<tr>
<td></td>
<td>*Starting FA 2023 course title change to RADI-S 420 Medical Sonography Procedures I</td>
<td></td>
<td></td>
<td>95% (Class '22)</td>
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<td>Analysis and Action Plan</td>
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<tr>
<td>'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.</td>
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<tr>
<td>'22: 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 toward higher class averages than expected.</td>
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</table>
**Indiana University-Indianapolis Diagnostic Sonography Program**

**Goal #2: Graduates will demonstrate effective communication skills.**

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Students will use effective oral communication skills with patients and clinical staff. (Affective)</td>
<td>*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</td>
<td>Average score from Ultrasound Clinical Eval Q8 &quot;Interpersonal Skills with Patients&quot; and Q9 &quot;Interpersonal Skills with Staff/Other Medical Personnel&quot;</td>
<td>Minimum class average score of 3.5 out of 4.0</td>
<td>4.0 (Class ’21) 3.75 (Class ’22)</td>
</tr>
</tbody>
</table>

**Analysis and Action Plan**

’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.

’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.

| Students will demonstrate effective written communication skills (Cognitive) | *RADI-R 360 Introduction to DMS Projects (1st year SU) *Starting Summer 2023 course title change to RADI-S 410 Sonography Orientation | I Ought to Research That! Assignment | Minimum class average score of 22 out of 25 points | N/A (Class ’21) 24.5 (Class ’22) |

**Analysis and Action Plan**

’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.

’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.
### Goal #3: Graduates will think critically and apply problem solving skills in a scanning environment.

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<td>Students will think critically, and problem solve imaging strategies to obtain high quality images. (Psychomotor)</td>
<td>*RADI-R 363 DMS Lab II (1st year SP)</td>
<td>Right Upper Quadrant Skills Assessment</td>
<td>Class average score of 90%</td>
<td>93.20% (Class ’21)</td>
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<tr>
<td></td>
<td>*Starting Spring 2024 course title change to RADI-S 432 Medical Sonography Lab II</td>
<td></td>
<td></td>
<td>92.57% (Class ’22)</td>
</tr>
</tbody>
</table>

**Analysis and Action Plan**

'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.

'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.

Students will evaluate images for differential diagnoses. (Cognitive)  
*RADI-R 362 DMS Lab I (1st year FA)  
*Starting Fall 2023 course title change to RADI-S 431 Medical Sonography Lab I  
Anatomy/Pathology In-Class Assignments  
Minimum class average score of 90% for all Anatomy/Pathology assignments.

**Analysis and Action Plan**

'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.

'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.
### Goal #4: Graduates will demonstrate professional values.

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<tbody>
<tr>
<td>Students will demonstrate appropriate professional values in the clinical setting. (Affective)</td>
<td><em>RADI-R 381 Clinical Practicum I</em>&lt;br&gt;<em>Starting Fall 2023 course title change to RADI-S 451 Medical Sonography Clinical Practicum I</em></td>
<td>Average score from Ultrasound Clinical Eval Q3 “Student works as a Team Member” and Q4 “Student is Respectful and Considerate”</td>
<td>Minimum class average score of 3.5 out of 4</td>
<td>3.7 (Class ‘21)&lt;br&gt;3.95 (Class ‘22)</td>
</tr>
</tbody>
</table>

**Analysis and Action Plan**

'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.

'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.

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<td>Students will demonstrate an understanding of ethical obligations as described in the ARDMS Code of Ethics and Scope of Practice. (Cognitive)</td>
<td><em>RADI-R 360 Introduction to DMS Projects</em>&lt;br&gt;<em>Starting Summer 2023 course title change to RADI-S 410 Sonography Orientation</em></td>
<td>Scope of Practice, Clinical Standards, and Code of Ethics Assignment</td>
<td>Minimum class average of 22 out of 25 points</td>
<td>N/A (Class ‘21)&lt;br&gt;23.75 (Class ‘22)</td>
</tr>
</tbody>
</table>

**Analysis and Action Plan**

'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.

'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.
Indiana University-Indianapolis Diagnostic Sonography Program

Goal #5: Graduates will have the knowledge of professional development opportunities.

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<tr>
<td>Students will demonstrate knowledge of professional development resources. (Cognitive)</td>
<td>R360 Introduction to Diagnostic Sonography *Starting Summer 2023 course title change to RADI-S 410 Sonography Orientation</td>
<td>Professional Development Resource Scavenger Hunt Assignment</td>
<td>Minimum class average score of 90%</td>
<td>N/A (Class ’21) 92% (Class ’22)</td>
</tr>
</tbody>
</table>

Analysis and Action Plan

’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.

’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.
Indiana University-Indianapolis Diagnostic Sonography Program

Goal #6: To prepare competent entry-level sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for the Abdomen-Extended concentration.

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<tr>
<td>Students will successfully complete the program in 18 months. (Affective)</td>
<td>N/A</td>
<td>Number of students recommended for graduation.</td>
<td>70% of students who entered the program will graduate on time.</td>
<td>100% (Class ’21) 100% (Class ’22)</td>
</tr>
</tbody>
</table>

Analysis and Action Plan

’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. ’22: The student retention rate was consistent with our historical trends. We anticipate the student retention rate to remain high.

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<tr>
<td>Students will express confidence in the overall quality of skills learned while in the program. (Affective)</td>
<td>N/A</td>
<td>Post-Graduation Survey question 22 “Overall program quality and preparation as an entry-level sonography rating question”</td>
<td>80% of students will rate the program as Good or Excellent</td>
<td>100% (Class ’21) 100% (Class ’22)</td>
</tr>
</tbody>
</table>

Analysis and Action Plan

’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. ’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.