

**BRYAN COLLEGE OF
HEALTH SCIENCES**

SCHOOL OF HEALTHCARE STUDIES

*BACHELOR DEGREE IN HEALTH
PROFESSIONS*

MAJOR: SONOGRAPHY

Assessment of Student Learning Annual Report

2024-2025

Section 1: Statements of Purpose/Mission/Philosophy	3
Bryan College of Health Sciences Mission	3
Bryan College of Health Sciences Goals	3
Philosophy Statement of Sonography Programs	3
Program Goals:	5
Section 2 Measurable Objectives	5
Learning Objectives:	5
Sections 3-6: Measures, Gaps, Reasons for Gaps, and Programmatic Adjustments	6
Exit, Alumni, and Employer Surveys	6
Registry Exams:	10
SPI Registry Exam	11
Abdomen Registry Exam Pass Rates	12
OB/GYN Registry Exam Pass Rates	13
Adult Echocardiography Registry Exam Pass Rates	14
Vascular Technology Registry Exam Pass Rates	15
Final Practicum Semester Evaluations	15
Sonography Awareness Activities	18
Evidence Based Practice Plan	19
Capstone Project:	20
Overall Program Effectiveness	21
Graduation Rate:	21
Employment Rate:	23
Section 7: Budgetary Changes	23
Section 8: Correlate Adjustments to Change in Outcomes	23
Section 9: Continued Assessment Refinement	24
Graphical Summary of Assessment Results	1

Section 1: Statements of Purpose/Mission/Philosophy

Bryan College of Health Sciences Mission

The Mission of Bryan College of Health Sciences is to provide educational pathways in the health sciences grounded in academic excellence, clinical distinction and experiential learning through collaboration with Bryan Health and the health care community.

Bryan College of Health Sciences Goals

The goals of Bryan College of Health Sciences are to prepare graduates who:

- Qualify for diverse careers in healthcare, academic, or scientific environments
- Illustrate respect for their own and others' unique individualities
- Demonstrate professionalism in their field of study
- Practice life-long learning as a means of personal and professional growth
- Exhibit service-oriented citizenship within their communities

Philosophy Statement of Sonography Programs

The faculty of Bryan College of Health Sciences, School of Healthcare Studies Sonography programs, believes that:

Health professions encompass a wide range of diverse careers which contribute directly and indirectly to the delivery of quality health care and services through promotion of interdisciplinary communication, support and collaboration with a variety of healthcare providers. Sonography is one of these health professions which incorporates both art and science and integrates theory with practice. The professional sonographer requires highly specialized skills, critical thinking, decision making, problem solving, integrity, teamwork and respect.

Sonographers actively collaborate with physicians and other health professionals to support health promotion and maintenance and illness prevention, and provide a culture of safety which involves safe practice, commitment, accountability and responsibility to patients, society and the profession. Sonographers are guided by

legal and ethical standards, and require communication and interpersonal skills which promote holistic, caring interaction with the patients and other health professionals.

The patient as an individual is a unique and multidimensional being with inherent worth and dignity. Individuals interact in a dynamic process within an ever changing environment. Individuals have the capacity to care, to learn and to change. They have the right to determine and participate in activities that affect their health status and are, therefore, responsible for their own actions.

The environment is both internal and external. The internal environment is unique to the individual. The external environment is global, geopolitical, cultural and technical. The relationship between the individual and the environment is both dynamic and reciprocal.

Health is a dynamic state influenced by heredity, the environment and the individual's lifestyle. The state of health is reflected within an individual's physical, psychological, spiritual, developmental, and sociocultural dimensions. Individuals differ in how health is perceived and valued, and have the right to define their own health. The pursuit of health is the right and responsibility of each individual.

Educational preparation of the sonographer is built on an integrated study of general education and health concepts. Knowledge and skills are developed through didactic and clinical/field experiences specific to the field of study. The educational experience prepares the graduate to practice in a variety of settings as a sonographer.

Learning is a life-long, interactive process that builds on previous experience and ideally results in change in attitudes, beliefs, and/or behaviors. Learning occurs in a variety of environments, and involves the cognitive, affective and psychomotor domains. The learner is responsible for actively seeking knowledge both independently and under the supervision and guidance of qualified faculty and practitioners.

Faculty are responsible as role models, mentors and teachers for providing a caring environment in which students are free to explore and develop personally, professionally and intellectually. The College provides educational opportunities within the multiple contexts of legal and ethical boundaries, political and economic forces, sociocultural influences, and spiritual and historical factors. This

environment provides quality education, which develops critical thinking and technical competence in the field of sonography and contributes to meeting the emerging health care needs of society.

Program Goals:

- **CVT Program:** To prepare competent entry-level cardiovascular technologists in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for adult echocardiography and to prepare competent entry-level cardiovascular technologists in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for noninvasive vascular study.
- **DMS Program:** To prepare competent entry-level sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for the following concentration(s) it offers: Abdominal Sonography-Extended, Obstetrics and Gynecology sonography.

Section 2 Measurable Objectives

Learning Objectives:

The Sonography programs have identified curriculum objectives that the student will be equipped to fulfill upon completion of the program. These objectives are consistent for each sonography program in the School of Healthcare Studies. All curriculum objectives for student learning for the academic year of 2021-2022 were assessed.

Upon completion of the program the graduate will be able to:

1. [For Cardiovascular Sonography]: Competently perform as an entry-level cardiovascular technologists in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for adult echocardiography and to prepare competent entry-level cardiovascular technologists in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for noninvasive vascular study.
[For Diagnostic Medical Sonography]: Competently perform as an entry-level sonographer in the cognitive (knowledge), psychomotor (skills) and affective (behavior) learning domains for the abdominal

sonography-extended, and obstetrics and gynecology sonography concentrations.

2. Demonstrate ethical and professional behavior through sonographic practice congruent with standards of practice.
3. Meet the eligibility requirements to apply for the American Registry of Diagnostic Medical Sonographers (ARDMS) exams.
4. Interact effectively with individuals in a manner that reflects caring and acknowledges the holistic nature of individuals.
5. Promote growth of the health professional and awareness of health professions through education of individual groups and communities of interest.
6. Correlate current research to ensure best-practice delivery of specialty specific, quality patient care and services.

In addition to program objectives, overall program effectiveness is also assessed.

Sections 3-6: Measures, Gaps, Reasons for Gaps, and Programmatic Adjustments

This segment of the report integrates sections 3-6 of the College's Framework for Annual Assessment Reports. It is organized by the learning outcome measurements. For each tool, the subcommittee has identified the corresponding curriculum outcome (**Section 3**), determining whether or not there are gaps between the tool's benchmark and student performance (**Section 4**). For any gaps, the subcommittee has identified probable reasons for the gaps (**Section 5**) and discussed programmatic and/or operational adjustments (**Section 6**) planned to narrow the gaps.

Exit, Alumni, and Employer Surveys

Objective(s) Assessed: All Objectives (#1-6)

Objectives 1-6 were assessed through the information and statistics provided from the Exit, Alumni, and Employer Surveys. Individuals marking "Agree" or "Strongly Agree" for any competency were indicated as "Agree" in the tables below. To provide this information, the following groups were assessed.

Exit Survey	Alumni Survey	Employer Survey
December 2024 DMS May 2025 CVT	December 2024 DMS May 2024 CVT	December 2024 DMS May 2024 CVT

Exit Surveys

Competency	DMS Agree (n =10)	CVT Agree (n =6)	% Total Agree
Competently perform as an entry-level sonographer in the cognitive, psychomotor and affective learning domains	10	6	
Demonstrate ethical and professional behavior through sonographic practice congruent with standards of practice	10	6	
Meet the eligibility requirements to apply for the American Registry of Diagnostic Medical Sonographers (ARDMS) exams.	10	6	
Interact effectively with individuals in a manner that reflects caring and acknowledges the holistic nature of individuals.	10	6	
Promote growth of the health professional and awareness of health professions through education of individuals, groups and colleagues.	10	6	
Correlate current research to ensure best-practice delivery of specialty specific, quality patient care and	10	6	

services.			
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Alumni Surveys

Competency	DMS Agree (n =2)	CVT Agree (n=2)	% Total Agree
Competently perform as an entry-level sonographer in the cognitive, psychomotor and affective learning domains	2	2	
Demonstrate ethical and professional behavior through sonographic practice congruent with standards of practice	2	2	
Meet the eligibility requirements to apply for the American Registry of Diagnostic Medical Sonographers (ARDMS) exams.	2	2	
Interact effectively with individuals in a manner that reflects caring and acknowledges the holistic nature of individuals.	2	2	
Promote growth of the health professional and awareness of health professions through education of individuals, groups and colleagues.	2	2	
Correlate current research to ensure best-practice delivery of specialty specific, quality patient care and services.	2	2	

Employer Survey

Competency	DMS Agree (n =8)	CVT Agree (n=4)	% Total Agree
Competently perform as an entry-level sonographer in the cognitive, psychomotor and affective learning domains	8	4	100
Demonstrate ethical and professional behavior through sonographic practice congruent with standards of practice	8	4	100
Meet the eligibility requirements to apply for the American Registry of Diagnostic Medical Sonographers (ARDMS) exams.	8	4	100
Interact effectively with individuals in a manner that reflects caring and acknowledges the holistic nature of individuals.	8	4	100
Promote growth of the health professional and awareness of health professions through education of individuals, groups and colleagues.	8	4	100
Correlate current research to ensure best-practice delivery of specialty specific, quality patient care and services.	8	4	100

Benchmark: 80% of responses will agree or strongly agree for items.

Benchmark was **met** for all items across all 3 surveys.

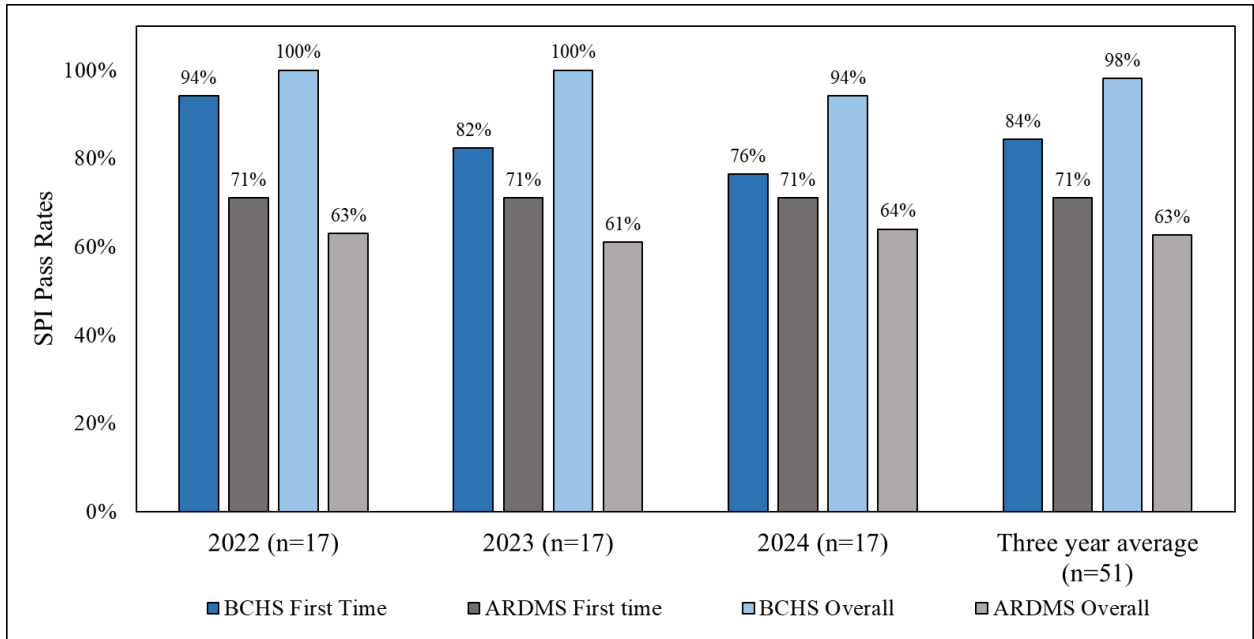
Registry Exams:

Objectives Assessed: Objective #3: *Meet the eligibility requirements to apply for the American Registry of Diagnostic Medical Sonographers (ARDMS) exams*

Upon graduation, graduates are strongly encouraged to take the registry exam in their area of specialty. Pass rates are calculated based on the number of students taking the exams and passing within one year of graduation. The Dean of Healthcare Studies will collect Registry Pass rate information. Bryan College of Health Sciences sonography programs will report pass rates to compare to the ARDMS national average for each of the exams.

Students must pass the Sonography Principles and Instrumentation (SPI) exam before they can take any registry exam. Students are eligible to take this exam after they have completed AHAL223 (Physics and Instrumentation). First time and overall pass rates for all test takers (based on graduation year) for the past three years, as well as the three year average are shown below for both Bryan College of Health Sciences and nationwide (ARDMS). Note for the 2021 data we only have overall pass rates, not first time vs. repeat attempts:

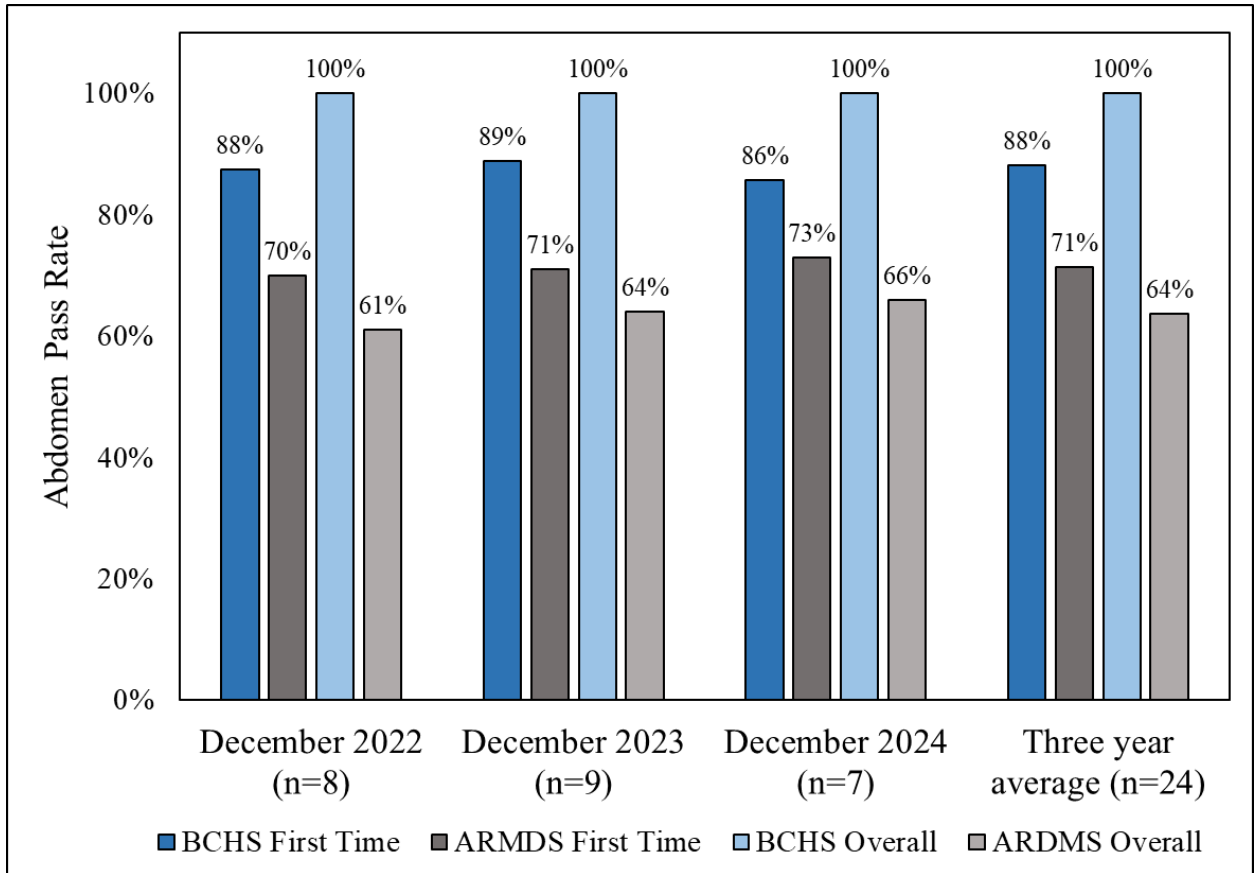
SPI Registry Exam



The three year average pass rate for the SPI is 98% for Bryan College of Health Sciences Sonography students, compared to 63% for the national average.

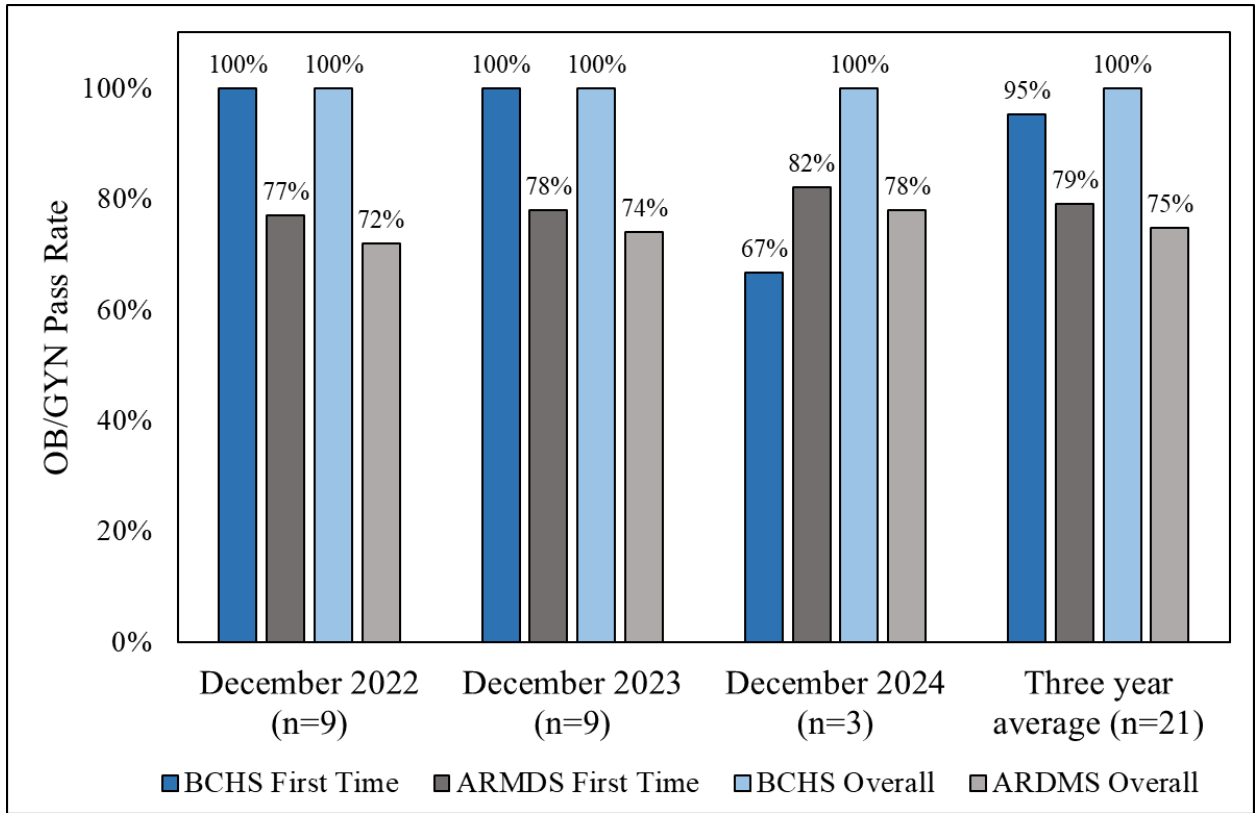
Students in the Diagnostic Medical Sonography program are eligible to sit for two registry exams upon graduation. Abdomen (AB) and Obstetrics and Gynecology (OB/GYN). First time and overall pass rates for all test takers for the past three years, as well as the three year average are shown below for both Bryan College of Health Sciences and nationwide (ARDMS) overall:

Abdomen Registry Exam Pass Rates



The three year overall pass rate for Bryan College of Health Sciences students is 100%, compared to the 64% national average.

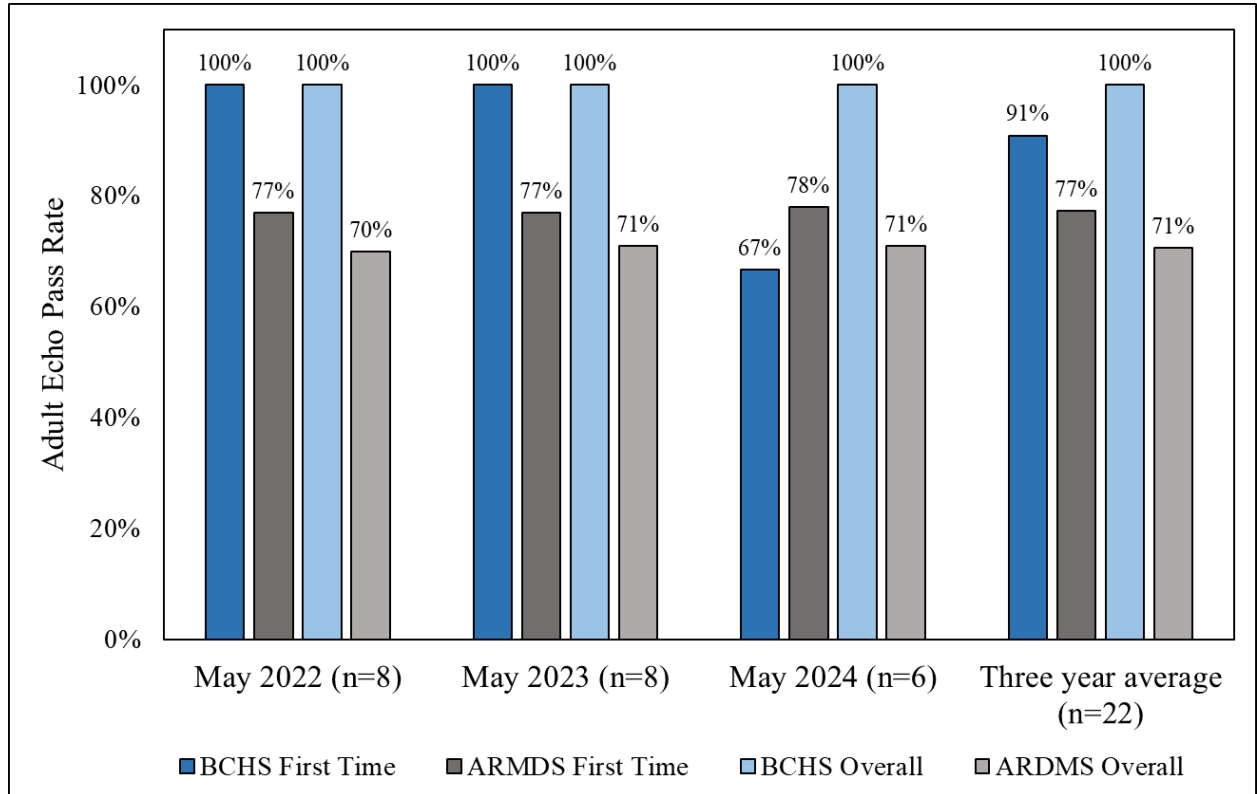
OB/GYN Registry Exam Pass Rates



The three year overall pass rate for Bryan College of Health Sciences students is 100%, compared to the 75% national average.

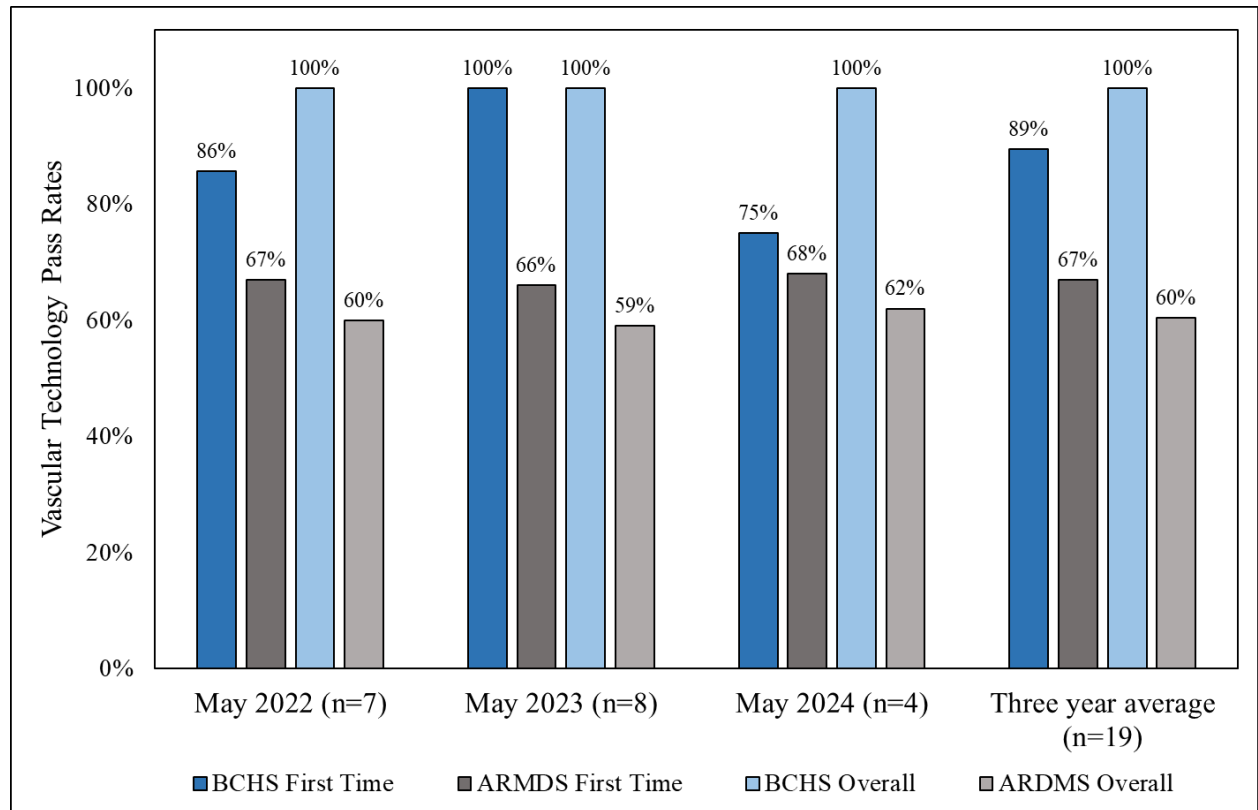
Students in the Cardiovascular Sonography program are eligible to sit for their Adult Echocardiography and Vascular Technology registry exams. First time and overall pass rates for all test takers for the past three years, as well as the three year average are shown below for both Bryan College of Health Sciences and nationwide (ARDMS) overall:

Adult Echocardiography Registry Exam Pass Rates



The three year overall pass rate for Bryan College of Health Sciences students is 100%, compared to the 70% national average.

Vascular Technology Registry Exam Pass Rates



The three year overall pass rate for Bryan College of Health Sciences students is 100%, compared to the 60% national average.

Our three year average first-time and overall pass rates exceed the national average for all five exams. Benchmark was **met**.

Final Practicum Semester Evaluations

Curriculum Objectives were assessed through the Clinical Evaluation of selected Level IV Clinical Objectives. Objectives assessed through the Clinical Evaluation Measurement are evaluated weekly by the student's preceptor/faculty. Formal Performance Evaluations documenting performance are completed and submitted every 3 weeks. All completed Clinical Evaluations are reviewed by the Clinical Coordinator and grades or comments reflecting concerning or unsatisfactory performance are discussed with the student in a face-to-face meeting.

Objectives Assessed

Level IV Curriculum Objective	Program Objective Assessed
<p>Competently perform as an entry-level sonographer in the cognitive, psychomotor and affective learning domains for field of specialty through demonstration of ethical and professional behavior and practice congruent with standards of practice.</p>	<p>Objective #1: <i>Competently perform as an entry level sonographer in the cognitive, psychomotor and affective learning domains and</i></p> <p>Objective #2: <i>Demonstrate ethical and professional behavior and practice congruent with standards of practice.</i></p>
<p>Intervene to promote a caring and respectful attitude by self and others.</p>	<p>Objective #4: <i>Interact effectively with individuals in a manner that reflects caring and acknowledges the holistic nature of individuals.</i></p>
<p>Consistently demonstrate organizational skills in the role of an entry level sonographer</p>	<p>Objective #1: <i>Competently perform as an entry level sonographer in the cognitive, psychomotor and affective learning domains and</i> Objective #2: <i>Demonstrate ethical and professional behavior and practice congruent with standards of practice.</i></p>
<p>Refine critical thinking skills to plan and perform specialty specific procedures.</p>	<p>Objective #1: <i>Competently perform as an entry level sonographer in the cognitive, psychomotor and affective learning domains and</i> Objective #2: <i>Demonstrate ethical and professional</i></p>

	<p><i>behavior and practice congruent with standards of practice.</i></p> <p>Objective #3: <i>Meet the eligibility requirements to apply for the American Registry of Diagnostic Medical Sonographers (ARDMS) exams.</i></p> <p>Objective #6: <i>Correlate current research to ensure best-practice delivery of specialty specific, quality patient care and services.</i></p>
<p>Perform a full range of sonography examinations according to established standards</p>	<p>Objective #1: <i>Competently perform as an entry level sonographer in the cognitive, psychomotor and affective learning domains</i> and Objective #2: <i>Demonstrate ethical and professional behavior and practice congruent with standards of practice.</i></p> <p>Objective #4: <i>Interact effectively with individuals in a manner that reflects caring and acknowledges the holistic nature of individuals.</i></p>

100% of the sonography students from the December 2024, and May 2025 graduating class were evaluated on the objectives above during the extent of their final clinical semester and consistently met or exceeded expectations.

Benchmark: 90% of students that begin the final semester of the program will consistently meet or exceed expectations during the extent of their final clinical semester.

Benchmark was **met**.

Sonography Awareness Activities

Objectives Assessed: Objective #5: *Promote growth of the health professional and awareness of health professions through education of individuals, groups and colleagues*

All sonography students are required to participate in activities that educate the public and/or potential students about the sonography profession. This may be accomplished through volunteer or assigned activities. Students are informed of scheduled activities that would qualify to fulfill the sonography awareness activities requirement. However, students may self-identify activities with advisor approval. The Clinical Coordinator maintains a record of participation in activities that promote sonography awareness. Students rate their attainment of Objective #4 on the Exit Survey and the Alumni Survey. For clarification, information is requested on the Exit and Alumni Surveys asking students to give 1-2 examples of how they were able to promote awareness of the sonography profession. Students provided short narratives describing their activities.

Number of students completing required Sonography awareness activities	
December 2024	10/10
May 2025	6/6
Overall	16/16 (100%)
Exit Survey: Number of students Agree/Strongly Agree that they had met Objective #4	
December 2024	10/10
May 2025	6/6
Overall	16/16 (100%)
Alumni Survey: Number of students Agree/Strongly Agree that they had met Objective #4	

December 2024	2/2
May 2024	2/2
Overall	(100%)

Benchmark:

100% of students participate in sonography awareness activities, and a minimum of 80% indicate Agree or Strongly Agree for Objective 5 on the Exit and Alumni Surveys

Benchmark was **met**

Evidence Based Practice Plan

Objectives Assessed: Objective #6: *Correlate current research to ensure best-practice delivery of specialty specific, quality patient care and services*

Students typically take AHAL313: Research in Healthcare in the third year of their Sonography degree. During this course, students prepare a Literature Review in which they critique research findings on a selected methodology and present this as a Patient Education Presentation. A rubric is used by the instructor to assess attainment of Objective #6 through this assignment.

There were a total of 23 Sonography students enrolled in AHAL313 in the 2024-2025 academic year.

Scores on the rubric were distributed as follows:

Score	Number of Students
Accomplished (90-100%)	22
Competent (80-89%)	0
Developing (75-79%)	0
Unsatisfactory (< 75%)	1

22/23(95.6%) were at or above the Competent level

Benchmark:

80% of the students will demonstrate attainment of Objective 6 on the research proposal assignment at or above the Competent Level.

Benchmark was **met**

Capstone Project:

Objectives Assessed: Objective #6: *Correlate current research to ensure best-practice delivery of specialty specific, quality patient care and services*

The Capstone Project is completed in the final semester of a student's program. The project consists of a case study paper which involves researching a particular condition requiring sonographic evaluation and discussing the relevant history, pathology, diagnostic procedures and treatment correctly and substantially. It may also include an oral presentation of the case study. The written component of the capstone project is used to assess Objective 7 using the following rubric objectives:

- Made correlations between procedural findings of the specialty and the case study topic
- Explained diagnosis and identified possible alternative diagnoses
- Identified alternative diagnostic methods or explained why alternative diagnostic methods were not appropriate
- Accurately performed measurements and calculations of the specialty
- Identified possible therapeutic procedures or treatments

The process to evaluate the project is consistent throughout all sonography programs. The formal paper is evaluated by two individuals of any combination from the following list: medical directors, physicians in the specialty, healthcare professionals. The number of capstone projects reviewed is based upon the total number of students within the sonography programs and within each of its specialties for the academic year. Sixteen students were evaluated with the approved rubric for the 2024-2025 academic year. All 16 (100%) were assessed at the Competent or Exemplary Level.

Benchmark: 80% of the students will demonstrate attainment of Objective 6 at or above the competent Level.

Benchmark was **met**

Overall Program Effectiveness

Overall program effectiveness is evaluated through graduation rate and employment rate.

Graduation Rate:

Graduation rate is measured by the number of students completing their program within 150% or less of the time designated for program completion.

Data for students entering in 2019, 2020, and 2021 are below.

Year		Total	DMS	CVT	
2019-2020	Entered	21	10	11	Graduation Rate
	Graduated	17	9	8	81%
	Withdrawn	4	1	3	
2020-2021	Entered	25	11	14	Graduation Rate
	Graduated	16	9	7	64%
	Withdrawn	9	2	7	
2021-2022	Entered	22	9	13	Current Graduation Rate
	Graduated	13	8	5	59%
	Withdrawn	8	1	7	Potential Graduation Rate
	Still enrolled	1	0	1	64%
Three year	Entered	68	30	38	Current Graduation Rate
	Graduated	46	26	20	68%
	Withdrawn	21	4	17	Potential Graduation Rate

	Still enrolled	1	0	1	69%
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The three year current graduation rate is 68%, which is **below** the benchmark of 75%.

Benchmark was **not met** for Overall Program Effectiveness through Graduation Rate.

Probable Reason for Gap and Programmatic and/or Operational Adjustments to Narrow Gaps:

As we had identified in our 2022-2023 and 2023-2024 assessment report, while we had been meeting our graduation rate benchmark for the last several years, we were aware of a particularly small cohort due to a lack of retention in our CVT program that would decrease the graduation rate below the benchmark. This is the cohort of students that started at Bryan during the 2020-2021 academic year, during the COVID-19 pandemic, which may have played a role. We have made several adjustments in response to this decreased graduation rate:

- (1) We completed an analysis of potential risk factors for students in their first year and identified three risk factors (A grade of C or lower in Anatomy and Physiology I or II, and a grade of B or lower in Principles of EKG). We continue to track this information and to point students with these risk factors to the academic support services available to all students.
- (2) Academic Support Services designed a dedicated “prep camp” for all Sonography students entering their first set of summer courses. This camp was well received by students, and initial analysis suggests the camp improved both overall exam scores in the courses, as well as retention. The plan is to continue to work with Academic Support Services to refine this camp and continue to implement and monitor these changes.
- (3) Our faculty continue to engage with our Academic Support Team to identify students who need additional support in the form of tutors or other assistance to aid in student success.
- (4) We refined our admissions processes to attract a larger pool of potential students, as well as to admit students who are better prepared for the rigor of our Sonography program.

It will take several years for these changes to impact the graduation rate, and we will continue to monitor as we progress through the next several years.

Employment Rate:

The employment rate is calculated by the percent of graduates actively seeking employment in their field that were employed within 6 months of graduation. All 2024-2025 graduates were known to be seeking employment in sonography. Of the 15 graduates seeking employment 15 (100%) were employed in their field within 6 months of graduation which exceeds our benchmark of 75%.

Benchmark: Benchmark was met for Overall Program Effectiveness through Employment Rate.

Section 7: Budgetary Changes

Assessment results for the 2024-2025 academic year do not require any changes in budget for the planning/budgeting processes.

Section 8: Correlate Adjustments to Change in Outcomes

As indicated above, we anticipate continuing to see a decreased graduation rate, but are monitoring how this is likely to change in coming years. As of now, we will continue to see a below benchmark graduation rate for the next cohort of students to report (Those entering during the 2021-2022 academic year), with a maximum possible graduation rate of 68.1%. However the cohort of students after that (those entering during the 2022-2023 academic year), are on track for a maximum possible graduation rate of 84%. The 2022-2023 academic year was the first year that the summer prep camp started, as well as increased faculty engagement with our Academic Support Team. The DMS program will also be implementing a new curriculum in the 2025-2026 school year and will add one spot, bringing the possible total number of students in each cohort to 11 whereas the previous maximum was 10.

Section 9: Continued Assessment Refinement

We continue to monitor ways to address low response rates on alumni and employer surveys. In addition, identifying first time pass rates is not always possible based on the information we have available so it may be necessary to switch to just reporting overall pass rates which are easier to accurately report.

Graphical Summary of Assessment Results

	Objective 1	Objective 2	Objective 3	Objective 4	Objective 5	Objective 6	Overall Program Effectiveness
Exit Surveys*	Met	Met	Met	Met	Met	Met	
Alumni Surveys*	Met	Met	Met	Met	Met	Met	
Employer Surveys*	Met	Met	Met	Met	Met	Met	
Registry Exams			Met				
Final Practicum Semester Evaluations	Met	Met	Met	Met		Met	
Sonography Awareness Activities					Met		
Evidence Based Practice Plan						Met	
Capstone Project						Met	

Graduation Rate							Not Met
Employment Rate							Met

*Indicates an indirect measure