Weber State University
Biennial Report on Assessment of Student Learning

Cover Page

Department/Program:
Academic Year of Report: 2022 and 2023 (covering Summer 2021 through Spring 2023)
Date Submitted: December 8, 2023
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The Institutional Effectiveness website hosts a page for each program that displays assessment reports and information. All available biennial assessment and program review reports are located at the bottom of the program's page on our site. As a part of the biennial report process, we ask that you please review your page for completeness and accuracy, and indicate below the changes that need to be made in sections A-E.

Program page link: https://www.weber.edu/ie/Results/Radiologic_Science.html

A. Mission Statement

Information is current; no changes required: Yes _____No __

Update if not current:

B. Student Learning Outcomes

(Please include certificate and associate credential learning outcomes)

Information is current; no changes required: Yes _____No __

Update if not current:
Please standardize student learning outcomes for Certificate, Associate, and Bachelor Degrees to include:
Students completing a certificate or degree in the School of Radiologic Sciences will demonstrate the following outcomes:

- Patient Care and Education
- Professional Development and Research
- Biologic Effects and Safety
- Clinical Competency and Medical Ethics
- Procedures, Anatomy, and Pathophysiology
- Instrumentation and Quality Control

C. Curriculum Grid

(Please review your current curriculum grid and verify that at least one course has been identified for each outcome in which you expect your students to demonstrate the desired competency of a graduating student. This could be shown in a variety of ways: classroom work, clinical or internship work, a field test, an ePortfolio, etc. You may request access to the Google Sheet on our site if that is easiest, or we can make the updates. Please reach out to oie@weber.edu if you wish to have access)

Information is current; no changes required: Yes _____No __

Departmental Competencies Measured for all Radiologic Sciences Programs	Patient Care & Education	Professional Development and Research	Clinical Competency & Medical Ethics	Procedures, Anatomy, and Pathophysiology	Instrumentation & Quality Control	Biological Effects & Safety
Certificate Programs						
Cardiographic Technician (EKG)	RADT 1025	RADT 1012	RADT 1012	RADT 1014	RADT 1013	RADT 1014
Limited Practical Technologist (LPT)	RADT 1025	RADT 1022	RADT 1021	RADT 1023	RADT 1024	RADT 1024
Radiologic Technology (AAS)						
	RADT 1022 RADT 3003 RADT 2042 RADT 2043 RADT 2942	RADT 2803 RADT 2821 RADT 2822 RADT 2823 RADT 2824 RADT 2825	RADT 2861 RADT 2862 RADT 2863 RADT 2864 RADT 2865 RADT 3043	RADT 1502 RADT 1512 RADT 1522 RADT 1532 RADT 1542	RADT 1621 RADT 1641 RADT 1661 RADT 1681 RADT 3443 RADT 3463	RADT 1303 RADT 2403 RADT 2913 RADT 3403
Advanced Radiologic Sciences (BS)						
Advanced Radiography	RADT 3003 RADT 3243 RADT 3253 RADT 3263	RADT 4803 RADT 4833 RADT 4933 RADT 4943 RADT 4992	RADT 3043 RADT 3423 RADT 3863 RADT 4223 RADT 4413 RADT 4572 RADT 4810 RADT 4863	RADT 3123 RADT 3143 RADT 3144 RADT 4303 RADT 4403 RADT 4543	RADT 3443 RADT 3463 RADT 3563 RADT 4213 RADT 4233 RADT 4243 RADT 4433 RADT 4443	RADT 3403 RADT 4203 RADT 4253

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Interventional Radiography	RADT 3003 RADT 3253 RADT 3263 RADT 4203	RADT 4933 RADT 4942 RADT 4943	RADT 3043 RADT 3863 RADT 4863	RADT 3123 RADT 3143 RADT 3144 RADT 4303 RADT 4313 RADT 4333	RADT 3563	RADT 4303 RADT 4313 RADT 4333
Computed Tomography	RADT 3003 RADT 3253 RADT 4203	RADT 4933 RADT 4942 RADT 4943	RADT 3403 RADT 3863 RADT 4863	RADT 3123 RADT 3143 RADT 3144 RADT 4303 RADT 4613 RADT 4653	RADT 3563 RADT 4663	RADT 3403 RADT 4303 RADT 4613 RADT 4653
Diagnostic Medical Sonography (DMS): Medical, Cardiac, & Cardiovascular	RADT 3003 RADT 3243 RADT 3253	RADT 4933 RADT 4942 RADT 4943	DMS 4620, 4621, 4622 DMS 4820, 4821, 4822, 4823 DMS 4610 DMS 4820, 4811, 4812, 4813 DMS 4240, 4350, 4360	RADT 3123 RADT 3143 DMS 4310, 4320, 4330, 4340 DMS 4410, 4420 DMS 4210, 4220, 4230	RADT 3563 DMS 4120	DMS 4100 DMS 4110
MRI	RADT 3003 RADT 3253 RADT 4203	RADT 4933 RADT 4942 RADT 4943	RADT 3043 RADT 3863 RADT 4863	RADT 3123 RADT 3143 RADT 3144 RADT 4643 RADT 4303 RADT 4633	RADT 4623 RADT 3563	RADT 4603 RADT 4643 RADT 4633
Nuclear Medicine	RADT 3003 RADT 3253 RADT 3263 NUCM 4103	RADT 4933 RADT 4942 RADT 4943	RADT 3423 NUCM 4861 NUCM 4862 NUCM 4863	RADT 3143 RADT 3144 RADT 4303 NUCM 4223	RADT 3563 NUCM 4303 NUC 4333	NUCM 4203 NUCM 4213
Radiation Therapy	RADT 3253	RADT 4933 RATH 4942 RADT 4943 RADT 4992	RATH 4861 RATH 4862 RATH 4863	RATH 4410 RATH 4412 RATH 4414	RADT 3563 RATH 4446	RATH 4330 RATH 4342 RATH 4448 RATH 4444
Women's	RADT 3003	RADT 4803	RADT 3043	RADT 3123	RADT 3443	RADT 3403

Imaging	RADT 3243 RADT 3253 RADT 3263	RADT 4833 RADT 4933 RADT 4943 RADT 4942 RADT 4992	RADT 3423 RADT 3863 RADT 4223 RADT 4413 RADT 4572 RADT 4810 RADT 4863	RADT 3143 RADT 3144 RADT 4303 RADT 4403 RADT 4543 RADT 4553 RADT 4563	RADT 3463 RADT 3563 RADT 4213 RADT 4233 RADT 4243 RADT 4433 RADT 4443 RADT 4583	RADT 4203 RADT 4253

*The above grid is used for all direct measures of learning. All courses utilize pre- and post-testing with multiple choice questions, case studies, simulated clinical scenarios, and imagin, as appropriate. All AAS students complete a Case Study and all BS students complete a BS Thesis project. Additionally, all students must meet the requirements for eligibility to ARRT, ARDMS, and/or ARRT certification examinations, as appropriate. The pass rate for these examinations is monitored as an effective external measurement.

This could be shown in a variety of ways: classroom work, clinical orinternship work, a field test, an ePortfolio, etc.

Objective	Internal Measurement	External Measurement	Data / Evidence of Learning
Patient Care & Education The student will demonstrate: a) appropriate patient education, safety, and comfort skills. b) acceptable methods of infection control and prevention. c) appropriate patient monitoring and the administration of contrast, as appropriate. d) appropriate responses to diverse patient populations	Successful Completion of Courses listed under the Patient Care category per appropriate emphasis and/or degree.	a) Graduate Surveys and Advisory Board Evaluations and Recommendations b) Professional Certification Pass Rates	**Formative Assessment:** a) Students discuss appropriate patient care skills within online and face to face discussions. b) Students demonstrate patient care skills through clinical education and simulation. c) Students participate in cultural competency activities (such as Study Abroad) and complete case study and thesis research regarding various pathologies and patient populations. **Summative Assessment:** a) Students complete clinical competencies related to patient care. b) Students complete comprehensive examinations and successfully pass patient care sections of their Board examinations. c) Students complete research products with diverse patient populations and pathological findings.

			c) Faculty review individual course, graduate, and employer evaluations.
Professional Development & Research The student will demonstrate: a) a sense of professionalism and a desire to learn. b) skills as mentors and leaders and learn the value of strategic planning. c) literature and data gathering and appropriate articulation of findings through professional writing.	Successful Completion of Courses listed under the Professional Development & Research category per appropriate emphasis and/or degree.	a) Graduate Surveys and Advisory Board Evaluations and Recommendations b) Professional organization (i.e. ASRT, SDMS) membership and participation.	**Formative Assessment:** a) Students participate in case study and original research in independent study and thesis coursework. b) Students have opportunities to participate in mentoring activities that promote leadership skills and collaboration. b) Students use sound research principles, resources, and grammar. **Summative Assessment:** a) Students complete case studies and original research that is written and presented in class. b) Students may present research via presentations and/or posters for professional organizations.
Clinical Competency & Medical Ethics The student will demonstrate: a) Legal, professional, and ethical responsibility b) Clinical competency	Successful Completion of Courses listed under the Clinical Competency & Medical Ethics category per appropriate emphasis and/or degree.	a) Graduate Surveys and Advisory Board Evaluations and Recommendations b) Professional Certification Pass Rates	**Formative Assessment:** a) Students discuss professionalism, medical ethics, and law during online and face to face courses and incorporate current literature from professional sources. b) Students simulate procedures via role play and/or simulation technology. c) Clinical instructors/preceptors evaluate their student(s) multiple times throughout the semester on professionalism, patient care, and competency. **Summative Assessment:** a) Students must submit a comprehensive application for certification examinations that outline the professional and ethical

			responsibilities of a certified professional. b) Students document clinical hours, competencies, and evaluations as evidence of their certification eligibility. c) Certification pass rates are reviewed annually.
Procedures, Anatomy, and Pathophysiology The student will demonstrate: a) Knowledge of anatomy, sectional anatomy, physiology, and pathophysiology b) Proper evaluation and critique of images demonstrating anatomy and pathology.	Successful Completion of Courses listed under the Procedures, Anatomy & Pathophysiology category per appropriate emphasis and/or degree.	a) Graduate Surveys and Advisory Board Evaluations and Recommendations b) Professional Certification Pass Rates	**Formative Assessment:** a) Students simulate procedures via role play and/or simulation technology. b) Students identify anatomy and pathology in case review and case study presentations. **Summative Assessment:** a) Students complete comprehensive examinations, and student scores are compared to certification requirements and outcomes. b) Certification pass rates are reviewed annually.
Instrumentation & Quality Control The student will demonstrate: a) an understanding and proper use of protective monitors (ie radiation badges), when applicable b) appropriate application of technical training and equipment. c) the ability to produce appropriate and diagnostic quality images. d) accurate interpretation of quality assurance (QA) tests.	Successful Completion of Courses listed under the Instrumentation & Quality Control category per appropriate emphasis and/or degree.	a) Graduate Surveys and Advisory Board Evaluations and Recommendations b) Professional Certification Pass Rates	**Formative Assessment:** a) Students simulate procedures via role play and/or simulation technology. b) Student simulate changes in technology and/or QA tests that demonstrate varied levels of compliance. **Summative Assessment:** a) Students complete comprehensive examinations to demonstrate knowledge of equipment, technology, and quality assurance.
Biological Effects and Assessment	Successful Completion of Courses listed under the	a) Graduate Surveys and Advisory Board	**Formative Assessment:** a) Students simulate and practice radiation safety

The student will demonstrate: a) Appropriate patient safety, as appropriate per emphasis. This includes biological effects and radiation safety, MRI safety, and appropriate use of MI and TI in sonography. b) appropriate radiation protection for procedures utilizing ionizing radiation.	Biological Effects and Assessment category per appropriate emphasis and/or degree.	Evaluations and Recommendations b) Professional Certification Pass Rates	via role play and/or simulation technology. **Summative Assessment:** a) Students complete comprehensive examinations in patient safety and biological effects. b) Students gain pertinent signatures from certified experts in their field of study during clinical education.

D. Program and Contact Information

Information is current; no changes required: Yes _____ No __

Radiologic Sciences Programs	**Primary Faculty Contact**	**Secondary Faculty Contact**
Certificate Programs		
Cardiographic Technician (EKG)	Christopher Steelman, MS R.T.(R)(CI)(ARRT), RCIS, FACVP Assistant Professor Marriott Health Sciences Building Room 363L 801-626-6126 csteelman@weber.edu	Dr. Tanya Nolan, EdD R.T.(R)(ARRT), RDMS Department Chair Marriott Health Sciences Building Room 363F 801-626-8172 tanyanolan@weber.edu
Limited Practical Technologist (LPT)	Dr. Taylor Ward, PhD R.T.(R)(CT)(MR)(ARRT) Assistant Professor Marriott Health Sciences Building Room 363E 801-626-6617 taylorward2@weber.edu	Victor Shane Clampitt, MSRS R.T.(R)(MR)(ARRT), MRSO (MRSCTM) Associate Chair, Assistant Professor Marriott Health Sciences Building Room 363A 801-626-8701 victorclampitt@weber.edu

Radiologic Technology (AAS)	Dr. Tanya Nolan, EdD R.T.(R)(ARRT), RDMS Department Chair Marriott Health Sciences Building Room 363F 801-626-8172 tanyanolan@weber.edu	Victor Shane Clampitt, MSRS R.T.(R)(MR)(ARRT), MRSO (MRSCTM) Associate Chair, Assistant Professor Marriott Health Sciences Building Room 363A 801-626-8701 victorclampitt@weber.edu
Advanced Radiologic Sciences (BS)		
Advanced Radiography	Dr. Robert J. Walker, PhD R.T.(R)(CT)(MR)(QM)(ARRT), FASRT Dumke Endowed Professor Marriott Health Sciences Building Room 363G 801-626-7165 rwalker2@weber.edu	Dr. Tanya Nolan, EdD R.T.(R)(ARRT), RDMS Department Chair Marriott Health Sciences Building Room 363F 801-626-8172 tanyanolan@weber.edu
Interventional Radiography	Dr. Laurie Coburn, EdD R.R.A., R.T.(R)(CV)(ARRT), RPA Assistant Professor Marriott Health Sciences Building Room 363C 801-626-6514 lauriecoburn@weber.edu	Christopher Steelman, MS R.T.(R)(CI)(ARRT), RCIS, FACVP Assistant Professor Marriott Health Sciences Building Room 363L 801-626-6126 csteelman@weber.edu
Computed Tomography	Dr. Taylor Ward, PhD R.T.(R)(CT)(MR)(ARRT) Assistant Professor Marriott Health Sciences Building Room 363E 801-626-6617 taylorward2@weber.edu	Rex Christensen, MHA R.T.(R)(CT)(MR)(ARRT), CIIP, MRSO (MRSCTM) Associate Professor Marriott Health Sciences Building Room 363D 801-626-8122 rexchristensen@weber.edu
Diagnostic Medical Sonography (DMS): Medical,	Dr. Tanya Nolan, EdD R.T.(R)(ARRT), RDMS Department Chair Marriott Health Sciences Building Room 363F	Ambree Penrod, M.Ed.RT(R)(ARRT), RDMS Assistant Professor Marriott Health Sciences Building Room 363K 801-626-6089

Cardiac, & Cardiovascular	801-626-8172 tanyanolan@weber.edu	ambreepenrod@weber.edu
MRI	Rex Christensen, MHA R.T.(R)(CT)(MR)(ARRT), CIIP, MRSO (MRSCTM) Associate Professor Marriott Health Sciences Building Room 363D 801-626-8122 rexchristensen@weber.edu	Victor Shane Clampitt, MSRS R.T.(R)(MR)(ARRT), MRSO (MRSCTM) Associate Chair, Assistant Professor Marriott Health Sciences Building Room 363A 801-626-8701 victorclampitt@weber.edu
Nuclear Medicine	Victor Shane Clampitt, MSRS R.T.(R)(MR)(ARRT), MRSO (MRSCTM) Associate Chair, Assistant Professor Marriott Health Sciences Building Room 363A 801-626-8701 victorclampitt@weber.edu	Dr. Kim Parkinson, DHSc R.T.(R)(MR)(ARRT), MRSO (MRSCTM) Assistant Professor Marriott Health Sciences Building Room 363H 801-626-6818 kimparkinson@weber.edu
Radiation Therapy	Dr. Casey Neville, DHSc R.T.(R)(ARRT) Associate Professor Marriott Health Sciences Building Room 363B 801-626-6068 caseyneville@weber.edu	Dr. Laurie Coburn, EdD R.R.A., R.T.(R)(CV)(ARRT), RPA Assistant Professor Marriott Health Sciences Building Room 363C 801-626-6514 lauriecoburn@weber.edu
Women's Imaging	Ambree Penrod, M.Ed. RT(R)(ARRT), RDMS Assistant Professor Marriott Health Sciences Building Room 363K 801-626-6089 ambreepenrod@weber.edu	Dr. Tanya Nolan, EdD R.T.(R)(ARRT), RDMS Department Chair Marriott Health Sciences Building Room 363F 801-626-8172 tanyanolan@weber.edu

E. Assessment Plan

We have traditionally asked programs to report on outcome achievement by students at the course level. We are encouraging programs to consider alternative assessment approaches and plans that are outcome-based as opposed to course-based, though course-based assessment can continue to be used. A complete assessment plan should include:

- a timeline (which courses or which outcomes will be assessed each year),

- an overall assessment strategy (course-based, outcome-based, reviewed juries, ePortfolio, field tests, etc.)
- information about how you will collect and review data
- information about how the department/program faculty are engaged in the assessment review.

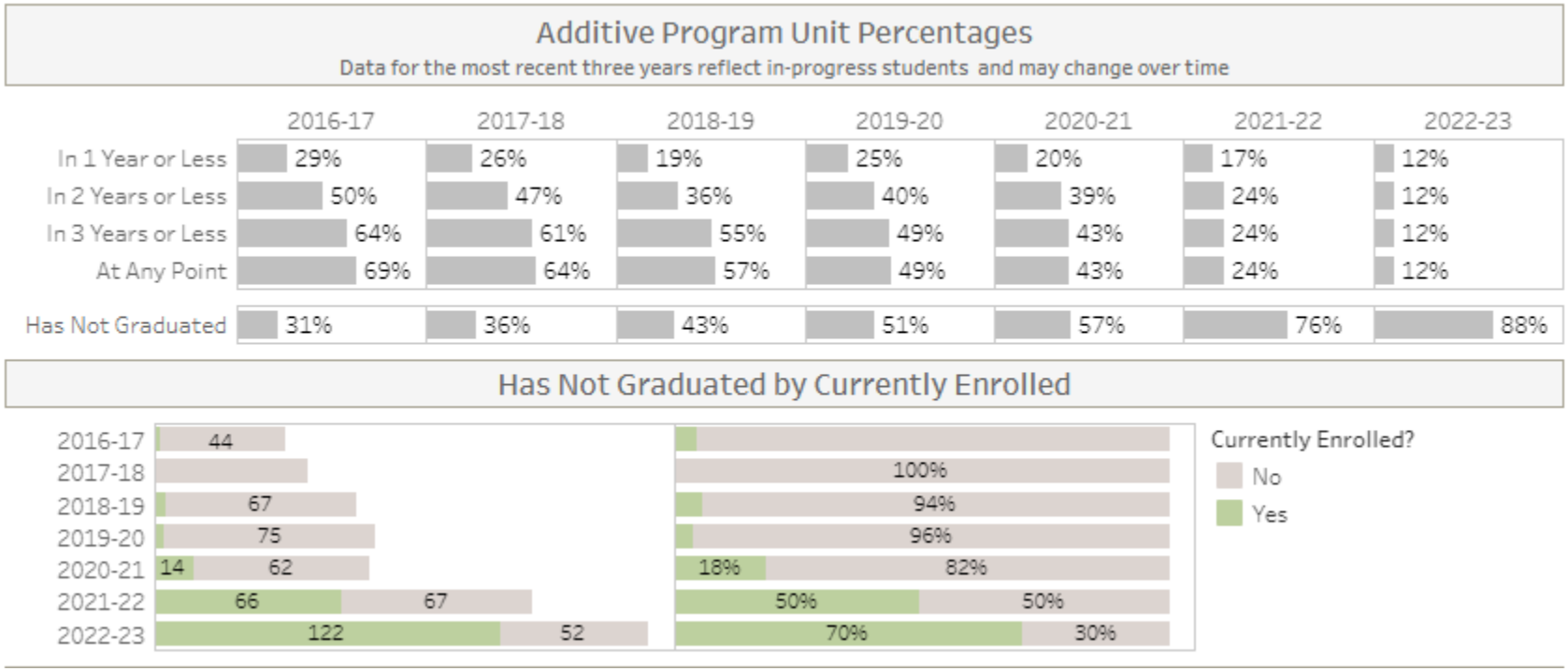
Information is current; no changes required: Yes _____No __

Assessment Plan - All students will complete the courses in each of the 5 categories as required within their emphasis with a summative assessment of 80% or higher.			
Timeline	**Objective**	**Emphasis - Data Reviewed**	**Program Faculty Engagement**
Course specific projects and grades are monitored and reviewed at the end of each semester. Composite scores, certification exams, and clinical performances are reviewed annually.	**Patient Care & Education**	**Certificate –** Simulation Projects **AAS–** Simulation Projects & Clinical Competency **BS–** Simulation Projects & Clinical Competency	Faculty supervise simulation projects at WSU campus and clinical competencies are supervised by affiliate clinical instructors. All students must complete 100% of all certifying competencies to qualify for board examinations.
	Professional Development & Research	**Certificate –** Case studies **AAS–** Case studies **BS –** Thesis	All faculty assist students in their research and education for case studies and BS thesis.
	Clinical Competency & Medical Ethics	**Certificate –**Simulation Projects **AAS–**Clinical Education Competency & Review of Professional Ethics and Federal Regulations. **BS –** Clinical Education Competency & Review of Professional Ethics and Federal Regulations.	Students within the certificate program complete regular hands-on lab experiences and simulated projects on computer software. Within the AAS and BS emphases, simulation projects and clinical logbooks are reviewed by WSU faculty on a regular basis and are graded based on clinical skills, behaviors in professionalism, patient care, and clinical hours. All students must complete 100% of all certifying competencies to qualify for board examinations.
	Procedures, Anatomy, and Pathophysiology	**Certificate –**Anatomy and Procedures comprehensive final. **AAS–**Clinical Competency & Anatomy and procedures course finals. **BS –** Clinical Competency	Certified faculty educate students in several body systems and procedures as related to their specialties. All students must achieve above 80% or higher in these courses, and each student must complete 100% of all certifying competencies to qualify for board examinations.

		& Anatomy and procedures course finals.	
	Instrumentation & Quality Control	**Certificate –** Simulation Projects **AAS–** Simulation Projects & Clinical Competency **BS–** Simulation Projects & Clinical competency	Simulation projects and clinical competencies cannot be achieved without an understanding of instrumentation, equipment, and quality control. Faculty assist students during simulation to appropriate utilize the equipment and apply principles of physics to quality imaging and patient safety. All students must achieve above 80% or higher in these courses, and each student must complete 100% of all certifying competencies to qualify for board examinations.
	Biological Effects & Assessment	**Certificate –** Simulation Projects **AAS–** Simulation Projects & Clinical Competency **BS –** Simulation Projects & Clinical Competency	All students within the clinical emphasis receive training in Biological Effects and Safety. These principles are effectively tested upon during certification examinations and faculty prepare students through comprehensive practice examinations on which students must achieve 80% or higher.
Comprehensive External Assessments are reviewed Annually & composite scores are reviewed every 3 years.	**Comprehensive Review: External Sources**	•Employment rates •Advisory Board surveys •Graduate surveys • Institutional review •Student course evaluations •Student exit evaluations •Clinical experience and certification examination results	In addition to the information above, the following is collected externally to inform us of our graduates' critical thinking, clinical competency, research skills, and program effectiveness.

F. Student Achievement

As I compare current results to previous results, it is important to note that these numbers include all AAS and BS degree students and that most students within the School of Radiologic Sciences continue in a BS program. Thus, there are several students who are currently enrolled and have not been counted in graduation numbers. When comparing the last biennium report, there is huge drop in "have not graduated" in 2020-2021 whereby 89% were reported. Currently, that number is 57%. It would be best to analyze these numbers for individual degrees and emphases. It would be my estimate that the number of non-graduates is likely resulting from those enrolled in BS degrees who are seeking professional certification and not degree completion. It would also be interesting whether students enrolled in certificate programs were also taken into consideration. However, this is difficult to discern based on cumulative data. Obviously, the biggest concern is that the percentage is trending upward. Although, our enrollment is also trending upward.



G. Evidence of Learning

The acceptable threshold for all student achievement is 80% or above. This meets the standard as determined by our certifying bodies.

There are a variety of ways in which you can choose to show evidence of learning, including the traditional Evidence of Learning Rubric, the updated Evidence of Learning worksheet, a narrative describing your assessments and evidence of student learning, or other tools such as ePortfolios, Signature Assignments, juried reviews, and so on, or a combination of any of these.
Whichever method you choose, please include:

1. Each learning outcome addressed in the course, and an interpretation of the outcomes as necessary to help outside reviewers understand the learning goals
2. The methods used to assess learning for each outcome – ideally, each outcome will be measured with at least two different methods, e.g., multiple quiz questions and a signature assignment, multiple exam questions and lab reports, course discussions and homework assignments, etc.
   Learning Objectives are reviewed in Section C with both formative and summative assessments.

3. The threshold of acceptable performance – preferably a multi-stepped threshold, such as "80% of students will score 80% or better on the set of quiz questions" – and brief explanation for why that target was selected

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The acceptable threshold for all student achievement is 80% or above. This meets the standard as determined by our certifying bodies.

4. The results of the assessment for each outcome. If possible, include specifics such as the number of students who meet, exceed, or fall short of the threshold.

   Patient Care and Education: 95% of the students in the program scored 80% or higher at the end of each course list on grid sequence.

   Professional Development and Research: 95% of the students in the program scored 80% or higher at the end of each course list on grid sequence.

   Clinical Competency 95% of the students in the program scored 80% or higher at the end of each course list on the grid sequence, and 95% of all students complete clinical competency as required by their credentialing body.

   Procedures, Anatomy, & Pathophysiology: 90% of the students in the program scored 80% or higher at the end of each course list on grid sequence.

   Instrumentation And Quality Control: 90% of the students in the program scored 80% or higher at the end of each course list on grid sequence.

5. A reflection on, or interpretation of, the findings. For example, if 100% of students correctly answer all quiz questions, might they need to be too easy?

   The overall success of students in patient care, clinical competency, anatomy, and instrumentation is reflected in their scores on board examinations.

   The first-time pass rates for the ARRT examination in 2020 was 91%, in 2021 was 85%, and 81% in 2022. We are consistently above the national average, however; the slight reduction in passing scores may be attributed to the rapid increase in accepted students to the program based on community needs and national staffing shortages. As result, several students were selected into the program who demonstrated lower academic success and experience as compared to years previous. On the flip side, this increase in student acceptance has expanded the amount of diversity demonstrated among our student population.

6. A plan of action to address the findings, even if the threshold was met, and/or reflection on changes made as a result of (or in the interim since) the last biennial report.
   One lesson that has been learned from 2020 is the success of intermittent ZOOM videos and course meetings wherein students can retain contact with professors and content. A plan of action would be to implement additional ZOOM or online opportunities to the hybrid classroom to enhance the students' connection to the learning experience and to the faculty. This would especially be important in

courses with traditionally difficult criteria.

7. How you plan to monitor and assess the success of changes you will make/have made ("close the loop").
   Comprehensive test scores will be maintained and compared along with the number of ZOOM or online activities provided per course.

Appendix A

Most departments or programs receive a number of recommendations from their Five/Seven-Year Program Review processes. This page provides a means of updating progress towards the recommendations the department/program is enacting.

Date of Program Review: ####	Recommendation	Progress Description
March 2018	Obtain more classroom/lab space	Additional space would is a need for the school of radiologic science, however, this is unlikely become available. Therefore, the faculty have been creative in utilizing the current space with flexible schedules, lab assistants, and lecture capture technology. Although efforts have been made to adjust for inadequate space, there is still a great need for additional space to better support student learning.
March 2018	Add simulation courses	Simulators have been added to programs including Cardiographic Technology, MRI, and Interventional Radiology. Additional phantoms and Butterfly probes have been obtained for Sonography courses.

Additional narrative:

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Appendix B

Please provide the following information about the full-time *and adjunct faculty* contracted by your department during the last academic year (summer through spring). Gathering this information each year will help with the headcount reporting that must be done for the final Five-Year Program Review document that is shared with the State Board of Regents.

Faculty Headcount	2019-20	2020-21	2021-22	2022-23
With Doctoral Degrees (Including MFA and other terminal degrees, as specified by the institution)				
Full-time Tenured	3	3	3	3
Full-time Non-Tenured (includes tenure-track)	1	2	3	3
Part-time and adjunct	1	1	0	0
With Master's Degrees				
Full-time Tenured	1	1	1	1
Full-time Non-Tenured	5	4	4	4
Part-time and adjunct	8	8	10	10
With Bachelor's Degrees				
Full-time Tenured				
Full-time Non-tenured				
Part-time and adjunct				
Other				
Full-time Tenured				
Full-time Non-tenured				
Part-time				
Total Headcount Faculty	19	19	21	21
Full-time Tenured	4	4	4	4
Full-time Non-tenured	6	6	7	7
Part-time				

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Appendix C

Please respond to the following questions.

1) Looking back at your previous biennial report where you identified strategies for improvement, what progress has been made in implementing improvements?

   As determined from the previous report, there was a focus on marketing and recruitment to increase numbers. We have been successful in expanding our student enrollment. Now, we need to ensure that we have supporting coursework for students who may not have the same level of experience and background. The second focus was on increasing the number of options or emphases. There have been several curriculum changes in the DMS program, and the EKG certificate was recently created and approved last year. More development is needed with a focus on cardiac imaging and medical informational technology and PACS.

2) Please take a few minutes to review the new DFWI dashboard in the Report Gallery. This dashboard allows you to see the percentage of students in each course who earn a D+, D, D-, E, W, UW, or NC grade. The data can be filtered by several parameters. Reflect on the DFWI rates overall and of your underserved minority students versus your Caucasian students:

   a. What are you seeing?
   b. What concerns you?
   c. What additional data could be beneficial?

   Most courses are below 10% earning a C- or below. The highest rate of failure is in RADT 2913 (Comprehensive Review) which is consistent with previous student trends (16.1%). This is explained because students often take a lower grade while prepping for the certification exam because they are allowed to turn in evidence of their passed certification exam for a grade change. The next highest "bundle" of courses would be those offered as part of certificate programs. Thus, these courses are offered to students seeking to know whether this profession meets their desired outcomes. All other courses are below 4%. I am uncertain whether retakes or grade changes are taken into account in this data.

3) We have invited you to re-think your program assessment. What strategies are you considering? What support or help would you like?

   For future assessment, I believe I would like to create an overarching database wherein faculty may actively input both formative and summative assessment data from their individual courses. In this way, we would have an active and reactive database with shared responsibility from which we could make informed decisions. This would also reduce the arduous task of gathering data that is widely spread across programs.

Glossary

Student Learning Outcomes/Measurable Learning Outcomes

The terms 'learning outcome', 'learning objective', 'learning competency', and 'learning goal' are often used interchangeably. Broadly, these terms reference what we want students to be able to do AFTER they pass a course or graduate from a program. For this document, we will use the word 'outcomes'. Good learning outcomes are specific (but not too specific), are observable, and are clear. Good learning outcomes focus on skills: knowledge and understanding; transferrable skills; habits of mind; career skills; attitudes and values.

- Should be developed using action words (if you can see it, you can assess it).
- Use compound statements judiciously.
- Use complex statements judiciously.

Curriculum Grid

A chart identifying the key learning outcomes addressed in each of the curriculum's key elements or learning experiences (Suskie, 2019). A good curriculum:

- Gives students ample, diverse opportunities to achieve core learning outcomes.
- Has appropriate, progressive rigor.
- Concludes with an integrative, synthesizing capstone experience.
- Is focused and simple.
- Uses research-informed strategies to help students learn and succeed.
- Is consistent across venues and modalities.
- Is greater than the sum of its parts.

Target Performance (previously referred to as 'Threshold')

The level of performance at which students are doing well enough to succeed in later studies (e.g., next course in sequence or next level of course) or career.

Actual Performance

How students performed on the specific assessment. An average score is less meaningful than a distribution of scores (for example, 72% of students met or exceeded the target performance, 5% of students failed the assessment).

Closing the Loop

The process of following up on changes made to curriculum, pedagogy, materials, etc., to determine if the changes had the desired impact.

Continuous Improvement
An idea with roots in manufacturing, that promotes the ongoing effort to improve. Continuous improvement uses data and evidence to improve student learning and drive student success.

Direct evidence
Evidence based upon actual student work; performance on a test, a presentation, or a research paper, for example. Direct evidence is tangible, visible, and measurable.

Indirect evidence
Evidence that serves as a proxy for student learning. May include student opinion/perception of learning, course grades, measures of satisfaction, participation. Works well as a complement to direct evidence.

HIEE – High Impact Educational Experiences
Promote student learning through curricular and co-curricular activities that are intentionally designed to foster active and integrative student engagement by utilizing multiple impact strategies. Please see https://weber.edu/weberthrives/HIEE.html