

Weber State University  
Annual Assessment of Evidence of Learning

Cover Page

Department/Program: Radiologic Sciences Graduate program  
Academic Year of Report: 2020/21  
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Report author: Tanya Nolan

Contact Information:  
Phone: 801-626-8172  
Email: [tanyanolan@weber.edu](mailto:tanyanolan@weber.edu)

**A. Brief Introductory Statement:**

Please review the Introductory Statement and contact information for your department displayed on the assessment site:

[https://www.weber.edu/portfolio/radsci\\_grad\\_ms.html](https://www.weber.edu/portfolio/radsci_grad_ms.html) - if this information is current, please place an 'X' below. No further information is needed. We will indicate "Last Reviewed: [current date]" on the page.

**X Information is current; no changes required.**

**Information is not current; updates below.**

## **B. Mission Statement**

Please review the Mission Statement for your department displayed on the assessment site:

[https://www.weber.edu/portfolio/radsci\\_grad\\_ms.html](https://www.weber.edu/portfolio/radsci_grad_ms.html) - if it is current, please indicate as much; we will mark the web page as “Last Reviewed [current date]”. No further information is needed.

If the information is not current, please provide an update:

### **X Information is current; no changes required**

**Information is not current; updates below.**

**In support of the Weber State University five core values, the Master of Science in Radiologic Sciences has established the following:**

Provide appropriate, accurate, and timely advisement for students within the program Nurturing the potential within every individual, the MSRS program will:

- Assist and encourage faculty and graduate students to develop collaborative relationships with other professionals;
- support and assist with scholarship and grant writing;
- promote the recruitment and support of students from diverse backgrounds;
- promote the recruitment and support of faculty from diverse backgrounds;

Promote appropriate professional behavior, ethics, diversity, and respect for self and others. Respect for people and ideas, the MSRS program will:

- assist and support graduate students in professional development and research to improve clinical based research and foundational professional research;
- provide student orientation to community/campus support services.

Providing access and opportunity for all, the MSRS program will:

- provide appropriate technologies in order for graduate students to access, gather, organize, and present information related to clinical, educational and professional research.

Engaged in the community, the MSRS program will:

- provide learning opportunities for students through a variety of instructional methodologies in multiple settings;
- identify essential knowledge and skills for imaging graduate students;

### **C. Student Learning Outcomes**

Please review the Student Learning Outcomes for your department displayed on the assessment site:

[https://www.weber.edu/portfolio/radsci\\_grad\\_slo.html](https://www.weber.edu/portfolio/radsci_grad_slo.html) - if they are current, please indicate as much; we will mark the web page as “Last Reviewed [current date]”. No further information is needed.

If they are not current, please provide an update:

**Information is current; no changes required.**

**Information is not current; updates below.**

1. Patient Care and Education
2. Professional Development and Research
3. Biologic Effects and Safety
4. Clinical Competency and Medical Ethics
5. Procedures, Anatomy, and Pathophysiology
6. Instrumentation and Quality Control

**D. Curriculum**

Please review the Curriculum Grid for your department displayed on the assessment site:

[https://www.weber.edu/portfolio/radsci\\_grad\\_slo.html](https://www.weber.edu/portfolio/radsci_grad_slo.html)- if it is current, please indicate as much; we will mark the web page as “Last Reviewed: [current data]”. No further information is needed.

If the curriculum grid is not current, please provide an update:

**Information is current; no changes required.**

**Information is not current; updates below**

<b>Masters of Radiologic Sciences (MSRS)</b>			
<b>Areas of Emphasis</b>			
<b>Emphasis (Total Credits)</b>	<b>Innovation and Improvement (36)</b>	<b>Radiologist Assistant (RA)(62)</b>	<b>Cardiac Specialist (59)</b>
<b>MSRS Core (23)</b>	MSRS 6100 (3)Research Methods MSRS 6120 (3) Research & Statistics MSRS 6140 (3)Clinical Laboratory Correlation MSRS 6200 (3) Population Health in Radiologic Sciences MSRS 6450 (3) Managing Health Information MSRS 6900 (3) Capstone: Clinical Fellowship and Portfolio MSRS 6910 (2) Transition to Practice MSRS 6999 (3)Master's Thesis		

<b>Supportive Courses</b>	<b>Innovation and Improvement (36) Students select 13 hours of credit</b>	<b>Radiologist Assistant (RA)(62) All supportive courses required for certification</b>	<b>Cardiac Specialist (59) All supportive courses required for certification</b>
	MSRS 6130 (3) Functional Hemodynamics MSRS 6403 (3) Evaluation of the Osseous System MSRS 6413 (3) Evaluation of the Chest MSRS 6423 (3) Evaluation of the Abdomen & GI System MSRS 6433 (3) Evaluation of the Genitourinary System MSRS 6443 (3) Clinical Pathways MSRS 6453 (3) Evaluation of the CNS and Facial Structures MSRS 6463 (3) Problem Patient Management MSRS 6473 (3) Nonvascular Invasive Imaging Procedures MSRS 6483 (3) Musculoskeletal Sonography MSRS 6493 (3) Advanced 3D Medical Imaging MSRS 6863 (3) Vascular Invasive Imaging Procedures MSRS 6992 (1-3) Seminar MSRS 6850 (3) Study Abroad	MSRS 6130 (3) Functional Hemodynamics MSRS 6403 (3) Evaluation of the Osseous System MSRS 6413 (3) Evaluation of the Chest MSRS 6423 (3) Evaluation of the Abdomen & GI System MSRS 6433 (3) Evaluation of the Genitourinary System MSRS 6443 (3) Clinical Pathways MSRS 6453 (3) Evaluation of the CNS and Facial Structures MSRS 6463 (3) Problem Patient Management MSRS 6473 (3) Nonvascular Invasive Imaging Procedures MSRS 6860 (3) Clinical Preceptorship MSRS 6861 (3) Clinical Preceptorship MSRS 6862 (3) Clinical Preceptorship MSRS 6863 (3) Vascular Invasive Imaging Procedures	MSRS 6130 (3) Functional Hemodynamics MSRS 6263 (3) Advanced Diagnostic Services Pharmacology MSRS 6413 (3) Evaluation of the Chest MSRS 6310 (3) Evaluation of the Cardiac System (NEW COURSE) MSRS 6311 (3) Interventional Cardiac Procedures I (NEW COURSE) MSRS 6312 (3) Interventional Cardiac Procedures II (NEW COURSE) MSRS 6313 (3) Interventional Cardiac Procedures III (NEW COURSE) MSRS 6493 (3) Advanced 3D Imaging MSRS 6501 (1) Advanced Practice Simulation I (NEW COURSE) MSRS 6502 (1) Advanced Practice Simulation II (NEW COURSE) MSRS 6503 (1) Advanced Practice Simulation III (NEW COURSE) MSRS 6860 (3) Clinical Preceptorship MSRS 6861 (3) Clinical Preceptorship MSRS 6862 (3) Clinical Preceptorship

## E. Assessment Plan

Please review the Assessment Plan for your department displayed on the assessment site: [https://www.weber.edu/portfolio/radsci\\_grad\\_ap.html](https://www.weber.edu/portfolio/radsci_grad_ap.html) if the plan current, please indicate as much; we will mark the web page as “Last Reviewed [current date]”. No further information is needed.

The site should contain an up-to-date assessment plan with planning going out a minimum of three years beyond the current year. Please review the plan displayed for your department at the above site. The plan should include a list of courses from which data will be gathered and the schedule, as well as an overview of the assessment strategy the department is using (for example, portfolios, or a combination of Chi assessment data and student survey information, or industry certification exams, etc.).

### Assessment Plan

All courses in the undergraduate programs are assessed on the six professional categories listed across the table. The MSRS program builds upon the professional knowledge and certification(s) that a student acquired during undergraduate education. The MSRS program was developed to increase Radiologic Sciences professional knowledge and skills, including research and writing, which are lacking in the profession. Additionally, the program is preparing students to assume leadership roles in healthcare facilities and educational programs. Artifacts from each class listed below are collected to assist the student with developing the necessary competencies and allow for further course development.

*Please be sure to include your planned assessment of any general education courses taught within your department.* This information will be used to update the General Education Improvement and Assessment Committee’s planning documentation.

### Curriculum Grid Masters of Science Radiologic Science

Six departmental competencies used for direct measurements of learning in ALL Radiologic Sciences Programs	Patient Care and Education	Professional Development and Research	Clinical Competency and Medical Ethics	Procedures, Anatomy and Pathophysiology	Instrumentation and Quality Control	Biological Effects & Safety
<b>MSRS</b>	MSRS 6200	MSRS 6100	MSRS 6900	MSRS 6140	MSRS 6450	MSRS 6310
Core Courses (Blue)	MSRS 6463	MSRS 6120	MSRS 6263	MSRS 6130	MSRS 6443	MSRS 6311
	NSRS 6992	MSRS 6910	MSRS 6501	MSRS 6310	MSRS 6493	MSRS 6312
	MSRS 6850	MSRS 6999	MSRS 6502	MSRS 6311		MSRS 6313
			MSRS 6503	MSRS 6312		MSRS 6473

Supporting Courses (Black)			MSRS 6860	MSRS 6313		MSRS 6501
			MSRS 6861	MSRS 6403		MSRS 6502
			MSRS 6862	MSRS 6413		MSRS 6503
				MSRS 6423		MSRS 6860
				MSRS 6433		MSRS 6861
				MSRS 6453		MSRS 6862
				MSRS 6463		MSRS 6863
				MSRS 6473		MSRS 6910
				MSRS 6483		
				MSRS 6863		

**\*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 radiographic reconstructed and segmented images, as appropriate. All MSRS students complete a Master's Thesis project, and in RA and Cardiac Specialist Emphasis, each student receives a comprehensive review in preparation for Certification exams. Board examination pass rates will be monitored for effective assessment.**

Objective	Internal Measurement	External Measurement	Data Collection
<b>Patient Care &amp; Education</b> Patient assessment, monitoring and management skills inclusive of responding to a diverse patient population.	Successful completion of MSRS courses 6200, 6463, 6992, 6850	Graduate surveys and advisory board	Student course evaluations, graduate evaluations and employer evaluation
<b>Patient Care &amp; Education</b> Patient education, safety and comfort skills.	Successful completion of MSRS courses 6200, 6463, 6992, 6850	Graduate surveys and advisory board	Student course evaluations, graduate evaluations and employer evaluation
<b>Professional Development &amp; Research</b> Legal, professional and ethical responsibility.	Successful completion of MSRS Courses 6100, 6120,6910 and 6999	Completion of CITI, WSU IRB and Clinical institutional IRB if required. Data collection and research skills	Course papers and Master's Thesis and student professional publications
<b>Professional Development &amp; Research</b> Knowledge and application of federal regulations & continued research and learning.	Successful completion of MSRS Courses 6100, 6120,6910 and 6999	Completion of CITI, WSU IRB and Clinical institutional IRB if required. Data collection and research skills	Course papers and Master's Thesis and student professional publications. Number of students entering Doctoral programs



<b>Clinical Competency &amp; Medical Ethics</b> Clinical Competency, Professionalism, and Lifelong learning.	Successful Completion of 6900, 6263, 6501, 6502, 6503, 6860, 6861, 6862	Graduate Surveys and Advisory Board	Clinical emphasis logbooks demonstrating hours, competencies, and evaluations. Certification examination results. Student research presentations, posters, and publications. Professional and clinical changes resulting from research.
<b>Procedures, Anatomy, and Pathophysiology</b> Knowledge of anatomy, physiology and pathophysiology	Successful completion of MSRS 6410, 6130, 6310, 6311, 6312, 6313, 6403, 6413, 6403, 6413, 6423, 6433, 6453, 6463, 6473, 6483, 6863	Graduate surveys and advisory board	Student course evaluations, graduate evaluations and employer evaluation Simulation training and certification examination results.
<b>Instrumentation &amp; Quality Control</b> Appropriate application of technical training and patient safety.	Successful completion of MSRS 6310, 6311, 6313, 6473, 6501, 6502. 6503, 6860, 6861, 6862, 6863, 6910	Graduate surveys and advisory board	Student course evaluations, graduate evaluations and employer evaluation Simulation training and certification examination results.

**F. Report of assessment results for the most previous academic year:**

**The curriculum grid was utilized for all direct measures of learning. All courses are step lock curriculum and were pre and post tested utilizing multiple choice questions, case studies, simulated clinical scenarios, and radiographic reconstructed and segmented images in each of the five measures as appropriate. 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. They will also be active contributors to the MSRS research agenda, and complete all clinical requirements for ARRT/CCI certification in clinical emphases.**

**Patient Care and Education                    100% of the students in the program scored 80% or higher at the end of each course list on grid sequence.**

**Professional Development  
And Research                                    100% of the students in the program scored 80% or higher at the end of each course list on grid sequence. Students will complete the MSRS research agenda thesis and presentation.**

**Clinical Competency                            100% of the students in the program scored 80% or higher at the end of each course list on grid sequence. Complete clinical competency as required by the ARRT and/or CCI credentialing.**

**Procedures, Anatomy**

**100% of the students in the program scored 80% or higher at the end of each course list on grid sequence.**

**Instrumentation  
And Quality Control**

**100% of the students in the program scored 80% or higher at the end of each course list on grid sequence.**

**In the MSRS 6900: Capstone: Clinical Fellowship & Portfolio, each of the five competencies listed above will be evaluated using course content from all courses in the program. These evaluations will consist of case studies that will evaluate a student’s critical thinking skills as it relates to research, problem patient management, appropriateness of imaging procedure, patient management and patient assessment.**

**We also collect the following measurements of student learning and program effectiveness:**

- Graduates employment
- Advisory boards reporting on their impressions of Weber State graduates they employ
- Graduate surveys reporting on their experiences in the program
- Regular institutional program review
- Advisory board review
- Student course evaluations
- Student exit evaluations
- Collection of student artifacts of learning
- Clinical experience and certification examination results in clinical emphases

Additive Program Unit Percentages										
Data for the most recent three years reflect in-progress students and may change over time										
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
In 1 Year or Less	68%	50%	65%	63%	52%	44%	78%	70%	82%	14%
In 2 Years or Less	74%	73%	70%	63%	56%	50%	78%	70%	82%	14%
In 3 Years or Less	74%	77%	74%	69%	64%	50%	78%	70%	82%	14%
At Any Point	84%	86%	78%	75%	68%	50%	78%	70%	82%	14%
Has Not Graduated	16%	14%	22%	25%	32%	50%	22%	30%	18%	86%

**2020-2021 Students are currently enrolled and in-progress. Therefore, the percentage is inaccurate on this report for the full academic year.**

**Appendix**

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	
With Doctoral Degrees (Including MFA and other terminal degrees, as specified by the institution)	
Full-time Tenured	2
Full-time Non-Tenured (includes tenure-track)	1
Part-time/Adjunct	4
With Master's Degrees	
Full-time Tenured	1
Full-time Non-Tenured	1
Part-time	
With Bachelor's Degrees	
Full-time Tenured	
Full-time Non-tenured	
Part-time	
Other	
Full-time Tenured	
Full-time Non-tenured	
Part-time	
Total Headcount Faculty	9
Full-time Tenured	
Full-time Non-tenured	
Part-time	

- Review and comment on the trend of minority students enrolling in your classes (particularly lower-division, GEN Ed) and in your programs.
  - a. Although we have little influence on diversity within the general education offered at Weber State, we currently seek diverse student populations to serve the healthcare community. We currently serve rural and urban communities across the state of Utah, as well as across the United States.
- What support (from enrollment services, advising, first-year transition office, access & diversity, etc.) do you need to help you recruit and retain students?
  - a. The MSRS Graduate Program Enrollment Manager recruits several students via marketing plans, graduate events, social media, and the MSRS program webpage. She works with all students one-on-one, including our International applicants, to support their potential acceptance and enrollment into the MSRS programs. She creates for each student a detailed graduation plan that outlines their course and professional goals. Faculty members meet with students on a regular basis to ensure that they are meeting the requirements for credentialing and degree attainment. One of the keys to recruitment is providing personalized laboratory and simulation experience and training. We are currently keeping equipment in small spaces, and each simulation requires extensive set up and take down which limits time and increases wear and tear on the equipment. Potentially, one of the most helpful assistance would be an increase in space for these special one-on-one or small group activities for skill and community development. Currently, several students have complained about or declined their positions in our program due to the financial aid process. The admissions, transfer credit, registration, and financial aid offices and representatives are absolutely necessary to these students. However, the messages they receive are confusing, inconsistent, and fairly uncompassionate.
- We have invited you to re-think your program assessment. What strategies are you considering? What support or help would you like?
  - a. Currently, we have both formative and summative assessments throughout the program. Early in the MSRS program, students struggled to complete the MSRS thesis. The number of enrollment and those who graduated increased with the implementation of the MSRS research agenda. We appreciate the assistance and support that we have received from Heather Chapman with statistical analysis. We may need additional support with writing services through the WSU Writing Center. Two MSRS emphasis are uniquely based on their clinical education requirements. Clinical competency is supervised and documented by the clinical preceptor and WSU faculty. The requirements are set standard by national credentialing agencies.
- Finally, we are supporting our Concurrent Enrollment accreditation process. Does your program offer concurrent enrollment classes? If so, have you been able to submit the information requested from the Concurrent Enrollment office?
  - a. As a graduate level program, pre-requisite courses would exceed the level of comprehension and skill developed through high school concurrent enrollment. Although concurrent enrollment does not have a direct effect upon us, we do have concerns in our undergraduate programs wherein we do not see a direct transition from Concurrent enrollment students to applications in our

programs. We do not believe that there is extensive marketing and understanding of our programs among High Schools, their administration/counseling, students, and their parents. As a result, many students do not differentiate our curriculum and degrees from technical and community college offerings.