

Cath Lab Digest

A product, news & clinical update for the cardiac catheterization laboratory specialist

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EDUCATIONAL PROGRAMS

The Weber State University Cardiac Specialist Program

“The expertise our graduates provide is uncommon in cath labs yet vital for modern practice,” says Christopher Steelman, MS, RT(R) (CI) (ARRT), RCIS, FACVP, AACC, Associate Professor of Radiologic Sciences at Weber State University and Founding Director of the Cardiac Specialist Program, Ogden, Utah.

Can you share an overview of your institution and program?

The Weber State University School of Radiologic Sciences began in 1966, celebrated its 50th anniversary in 2016, and is 59 years old in 2025. The Cardiac Specialist Program launched in fall 2020. Since then, it has continuously refined its curriculum and strengthened clinical partnerships to stay at the forefront of interventional cardiology. The program has attracted students with a broad range of experience from across the country and around the world.

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SIRP 2025

Q&A With Dr. Robert Foster: Shining a Light on Radiation Safety

Shared by HMP Global / SIRP

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PERIPHERAL IMAGING

Roadmap Imaging in the Endovascular Treatment of Complex Peripheral Vascular Disease

Ivana Kumar; Anshita Kumari, MBBS; Kusum Lata, MD, FACC, FSCAI



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CASE STUDY

When the Guard Gets You With Friendly Fire: Filter Choking and De-Choking During High Plaque Burden Carotid Artery Stenting

Muhammad Anjum, MBBS, FRCP, FSCAI, FCPS(C), FCPS(IVC); Jalaludin, MBBS, FCPS; Shahid Hameed, MBBS, MRCP; Imran Abid, MBBS, FCPS; Ahmad Noeman, MBBS, FCPS; Muzaffar Ali, MBBS, FCPS

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We are at an inflection point in the cardiac cath lab. Technology is evolving faster than ever, enabling procedures that address an increasingly number of patient populations and cardiovascular diseases. As advances in transcatheter interventions continue and the availability of these procedures become more commonplace, a greater understanding of cardiovascular imaging and interventional catheterization is becoming increasingly important. It is difficult for on-the-job training to ensure staff is clinically competent. The expertise our graduates provide is uncommon in cath labs yet vital for modern practice.

Over four semesters, students complete an integrated, evidence-based curriculum that builds analytical thinking and research skills. They explore topics ranging from coronary and structural heart disease to multimodality cardiac imaging and interventional catheterization techniques. To keep pace with rapid advances in the cath lab, the program also includes specialized courses in Leadership in Clinical Practice, Advanced 3D Medical Imaging, Current Trends in Cardiovascular Imaging, Artificial Intelligence, and Robotics.

How many students do you accept each year?

Our program accommodates working

professionals without requiring relocation, so enrollment isn't rigidly capped; nevertheless, to preserve quality and individualized mentoring, we typically accept no more than fifteen graduate students per year.

What is the required background for students?

Applicants must possess a bachelor's degree from an accredited health-science program including, but not limited to, cardiovascular technology, ultrasound, radiologic technology, respiratory therapy, or nursing. We intentionally admit students with varied experience: some arrive fully credentialed as cardiovascular or radiologic technologists, while others are just beginning their cath lab journey. All, however, share a determination to excel as integral members of the cardiac cath team. This range of perspectives energizes classroom dialogue and fosters rich opportunities for collaboration.

What is your program's annual tuition?

It runs just under \$25k a year for everyone — no in-state versus out-of-state difference. If paying all at once isn't convenient, you can spread it out with a payment plan (about three to four monthly installments each semester).

What clinical experiences do you offer your students?

We tailor clinical experiences to each student's credentialing needs. Those pursuing the registered cardiovascular invasive specialist (RCIS) through Cardiovascular Credentialing International or the cardiac interventional (CI) radiography certification through the American Registry of Radiologic Technologists (ARRT) complete the specific case logs and competencies these boards require, gaining hands-on proficiency in core cath lab procedures that underpin advanced practice. Students who already hold professional credentials focus on expanding their procedural range and leadership skills. For anyone not currently employed in a cath lab, we help arrange a clinical placement close to their residence so they can fulfill the required competencies while working under qualified preceptors without relocating.

Who does your classroom and clinical teaching?

Classroom experiences come from our faculty who are nationally recognized leaders in interventional cardiology and radiology, radiologic imaging, and therapeutic technologies, each with years of practice and teaching experience. They are active in state, national, and international professional bodies, so the curriculum always mirrors current standards and innovations. We also invite guest experts from around the world, including physicians, advanced practice providers, and cutting-edge device specialists, to deliver focused sessions that expand students' real-world perspective.

What is the employment outlook for your graduates?

Our graduates enter a job market that is growing faster than employers can hire. The U.S. Bureau of Labor Statistics projects 11 percent growth for cardiovascular technologists and diagnostic medical sonographers between 2023 and 2033, which translates to roughly 9,400 new openings each year. Much of this demand comes from the rapid expansion of advanced coronary, structural heart, and electrophysiology procedures. Coronary interventions now rely on sophisticated imaging and techniques to improve



Wasatch Hall residency housing at Weber State University.



A view of the campus at sunset.



Weber State University graduates adjusting their tassels during the graduation ceremony.

diagnosis and therapy, while structural heart work has progressed beyond transcatheter aortic valve replacement (TAVR) to minimally invasive mitral and tricuspid repairs and replacements made possible by next-generation devices.

The complexity and volume of these procedures are already creating workforce shortages, especially for professionals with deep expertise in cardiac imaging and emerging technologies, making multidisciplinary teams and advanced training essential. Simultaneously, many experienced cath lab specialists are nearing retirement, leaving vacancies that hospitals and outpatient centers struggle to fill. Because qualified talent is scarce, nearly every student in our last five cohorts secured a full-time position before graduation, demonstrating how well our program prepares graduates to move directly into high-value roles.

What are typical starting salaries for graduates?

Because our students come from every region of the country, regional pay variations make it impossible to quote a single salary figure for every graduate. Even so, a CCI survey of 1,745 RCIS-credentialed team members shows that those with a master's or doctoral degree earn the highest median hourly wage at \$49.36, compared with \$43.90 for bachelor's-prepared peers and \$41.25 for associate-degree holders.

KEEP READING!

Continue online to learn more about the Cardiac Specialist Program:



EDUCATOR SPOTLIGHT

Q&A with Christopher Steelman, MS, RT(R)(CI)(ARRT), RCIS, FACVP, AACC

Can you tell us about your own experience and work as an educator?

I am the Associate Professor of Radiologic Sciences at Weber State University and Founding Director of the Cardiac Specialist Program. I develop and lead graduate-level curricula in interventional cardiology. I serve on Cardiovascular Credentialing International's Board of Advisors and the RCIS Exam Committee, have chaired the American Society of Radiologic Technologists Cardiac & Vascular Interventional Technology Chapter, and have contributed to its Practice Standards Council. An Associate of the American College of Cardiology and Fellow of the Alliance of Cardiovascular Professionals, I am an internationally recognized speaker, having presented in over 20 countries, and a contributor to eight textbooks and numerous periodicals.



Driven by the belief that safe, effective cardiovascular care depends on expertly trained clinicians and technologists, I transitioned from hands-on practice to education. As a former cath lab technologist, I witnessed firsthand how structured instruction and mentorship improved both team performance and patient outcomes. That inspired me to earn a Master's in Adult Education and Educational Technology, blending my passions for cardiovascular science and teaching. Today, I design evidence-based curricula, lead collaborative research, and provide professional leadership to prepare the next generation of interventional cardiology specialists for a rapidly evolving field.

What is your approach to teaching?

My teaching philosophy centers on cultivating a supportive, intellectually safe environment where collaboration and respectful dialogue drive learning. I create a learning environment that promotes calculated risk-taking, treats mistakes as opportunities for growth, and maintains respectful, open-minded dialogue. Because my learners are adults, I invite them to help shape how we approach each topic and to understand the rationale behind every element of the curriculum. When students grasp the purpose and real-world relevance of a lesson, their motivation deepens, and they begin to direct their own learning. My students also learn teaching techniques, which are essential skills for all healthcare providers, and are prepared for a wide range of careers, including leadership and industry roles. This combination of psychological safety, relevance, and shared ownership promotes the self-directed, reflective habits that advanced education requires.

Can you share a proud teaching moment?

One of my most rewarding teaching experiences involves students who remind me of my own journey. They enter the cath lab as non-traditional students. They have returned to school, sometimes later in life, often juggling family or work responsibilities, and carrying the weight of self-doubt and anxiety. From the outset, they approach every lecture and lab session with a mixture of apprehension and curiosity, but they are determined to succeed despite their initial uncertainty. Watching these students evolve over the course of the program, gaining confidence and competence, has been incredibly gratifying. When they graduate, pass their credentialing exam, and secure positions beyond what they ever imagined, I feel immense pride. Yet the moments that fill me with the greatest joy are the phone calls they make months later, telling me that their lives have transformed, that the confidence they found in the cath lab carries into every part of their world, and that they have never been happier. Those conversations remind me why I teach: to help learners discover their potential, and witness how far determination and support can take them.

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Learn more about the Cardiac Specialist Program at Weber State
University: https://weber.edu/msrs/Cardiac_Specialist.html*



Online Only

A master's credential therefore commands about 14 percent more pay than a bachelor's degree and 20 percent more than an associate degree, placing graduate-prepared technologists at the top of the compensation scale in this workforce snapshot.

How successful have graduates been in passing the RCIS and CI exam?

The Cardiac Specialist Program isn't designed to prepare students for a credential exam; every graduate who has elected to sit for the RCIS exam has passed. That success isn't accidental — the program's academic and clinical requirements are more extensive than those mandated by both Cardiovascular Credentialing International's RCIS credential and the American Registry of Radiologic Technologists' Cardiac Interventional Radiography credential, ensuring our students meet and exceed all core competency domains before they test.

How has the program evolved over time?

Over the past five years, the Cardiac Specialist Program has undergone continuous, data-driven revision. My roles as full-time educator, author, and conference speaker keep me closely connected to the newest research, technologies, and guidelines, so emerging trends are rapidly woven into our courses. Most recently, we have added dedicated courses and modules on multimodality imaging, artificial intelligence, and robotic-assisted interventions, ensuring our curriculum mirrors the field's rapid evolution. Weber State is also introducing a bachelor's program in cardiac catheterization, and when paired with our entry-level Cardiology Technician Proficiency Certificate (EKG), it offers students a clear pathway into cath lab technology careers.

What advice can you give to students considering your program and/or working in the cath lab?

Students considering our Cardiac Specialist program come from a wide spectrum of backgrounds, from those with little or no prior cath lab experience to seasoned technologists. For students new to the cath lab, we are committed to helping you find the right clinical site.

Most clinical sites immediately recognize the potential of our students and see our students as part of the solution to staffing challenges. This program is challenging by design; it is structured to prepare professionals to increase their level of contribution and therefore their value to the cath lab.

If you are thinking about a career in the cath lab, start exploring today. Make use of reputable online resources, subscribe to publications like Cath Lab Digest for timely insights into interventional cardiology, and visit the Cardiovascular Credentialing International website for objective data on industry trends and total compensation benchmarks. Please feel free to reach out to me directly. Pursuing an academic program is a major life decision, and I approach every conversation with transparency and objectivity. I am always available to discuss our program, answer your questions, and help you determine whether this is the right path for your professional goals.

What do you consider unique about your program?

Several factors set our program apart. Weber State University is the world's first master's-level cardiac cath lab program, building on the School of Radiologic Sciences' 50-plus years of leadership. It was also the first in the nation to offer a Radiologist Assistant track. This tradition of innovation means our students can pursue a graduate degree precisely aligned with their professional passion. The Cardiac Specialist program is led by highly experienced professors who are recognized leaders in their fields. Their expertise gives students an exceptional learning experience and a breadth of perspective rarely found in cardiovascular science programs. Our program is not solely focused on individuals passing a credentialing exam; it is a forward-looking curriculum designed not just to meet current professional or academic standards, but to anticipate the knowledge, technologies, and competencies that students will need in the near- and medium-term future. By integrating advanced theory and leadership preparation, the program consistently produces some of the most capable cath lab professionals in the field. ■