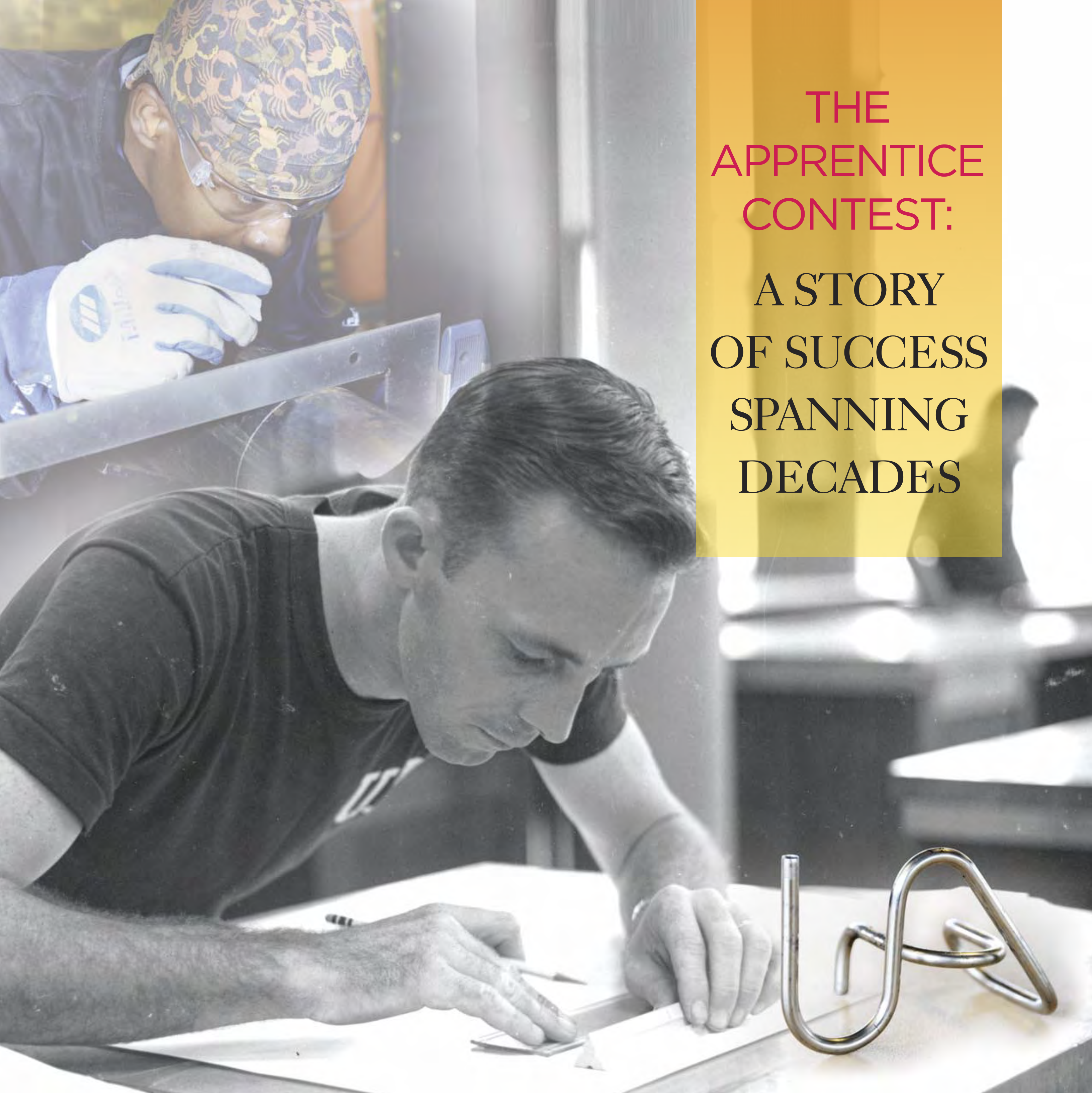
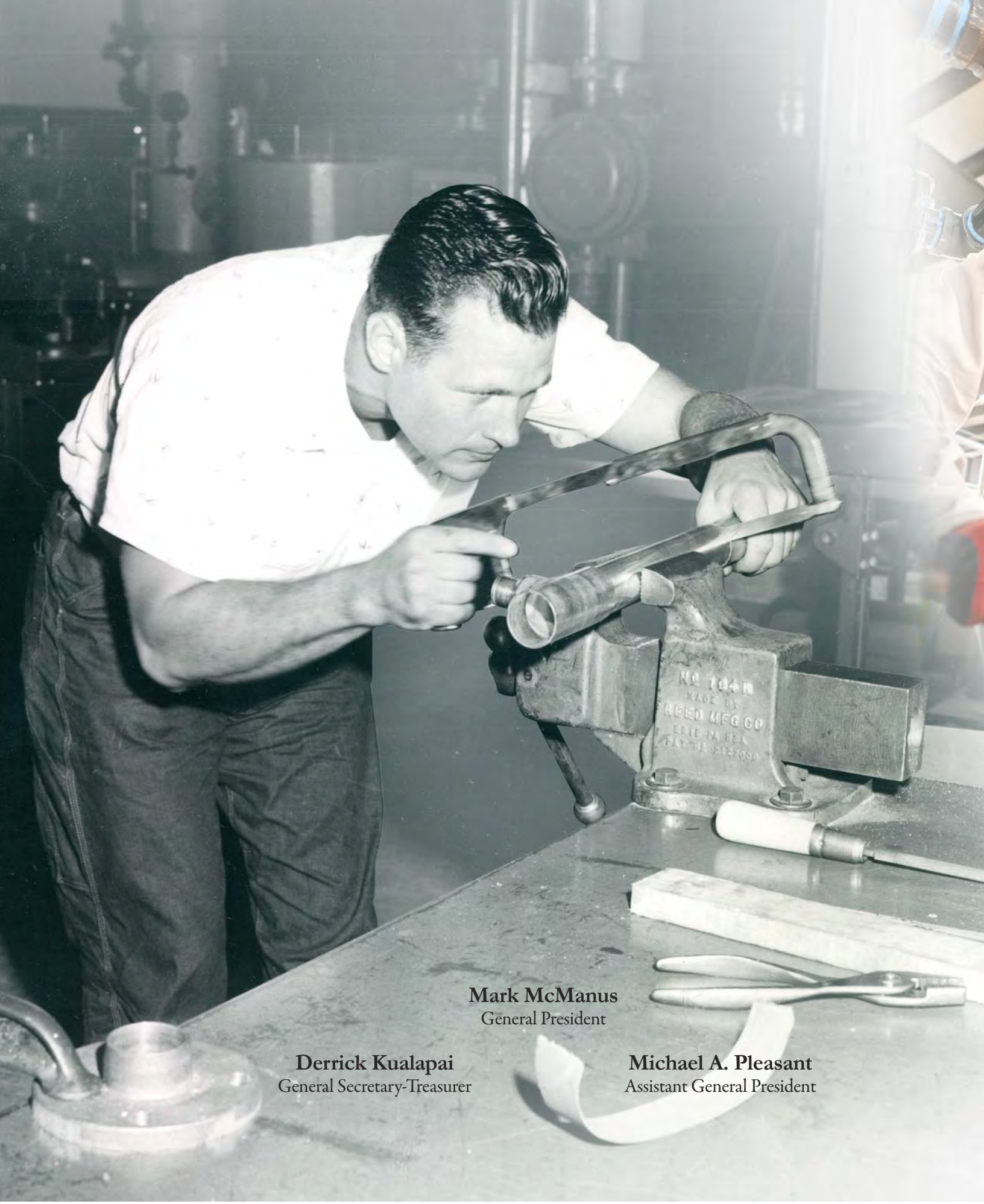


THE APPRENTICE CONTEST:

A STORY OF SUCCESS SPANNING DECADES

1954 PLUMBERS • UNION • PIPEFITTERS • SERVICE TECHS • STEAMFITTERS • SPRINKLERFITTERS 2025



Mark McManus
General President

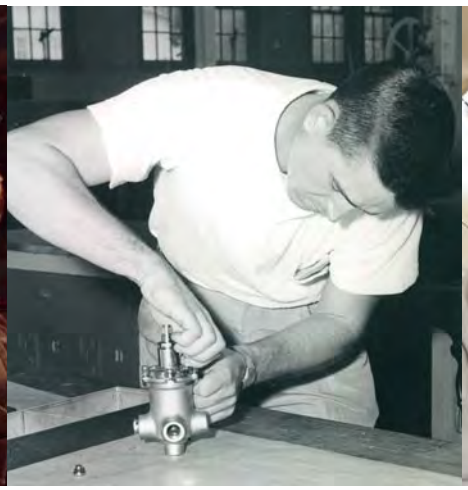
Derrick Kualapai
General Secretary-Treasurer

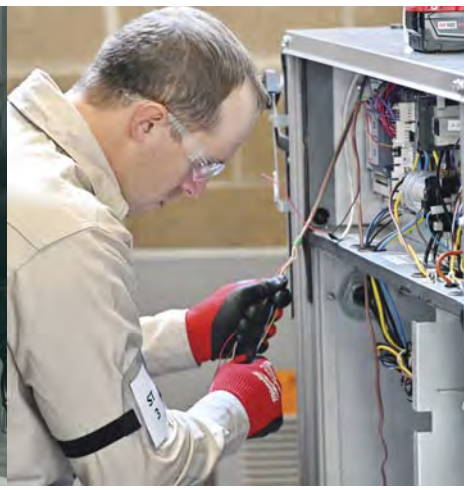
Michael A. Pleasant
Assistant General President

***UA Journal*, February 1954:** "Very few things characterize our way of life more than our general spirit of competition. It is no small wonder, then, that our own contest program has created so much interest in our industry. The general public will no doubt also view our contests with considerable interest and will appreciate our efforts to provide the best possible training for future journeymen in our industry."

When United Association General President Martin P. Durkin returned to the UA fold after serving as the first (and only) Secretary of Labor from the ranks of the trade union movement, he recognized that securing the UA's future required expanding its membership. He believed one way to achieve this was through greater awareness and appreciation of apprenticeship, combined with a higher level of training for all members. The seeds of the Instructor Training Program and the International Apprentice Contest were planted, and it didn't take long for these ideas to bear fruit.

However, as he conceived the contest, General President Durkin warned that it was only one step in the right direction, stating, "But in and of itself, it will not be enough. The answer lies in the hands of each local union. There and only there can the real steps be taken which will assure the members and their families of the benefits of the wages, hours, and working conditions befitting truly qualified journeymen of the plumbing and pipe fitting industry."

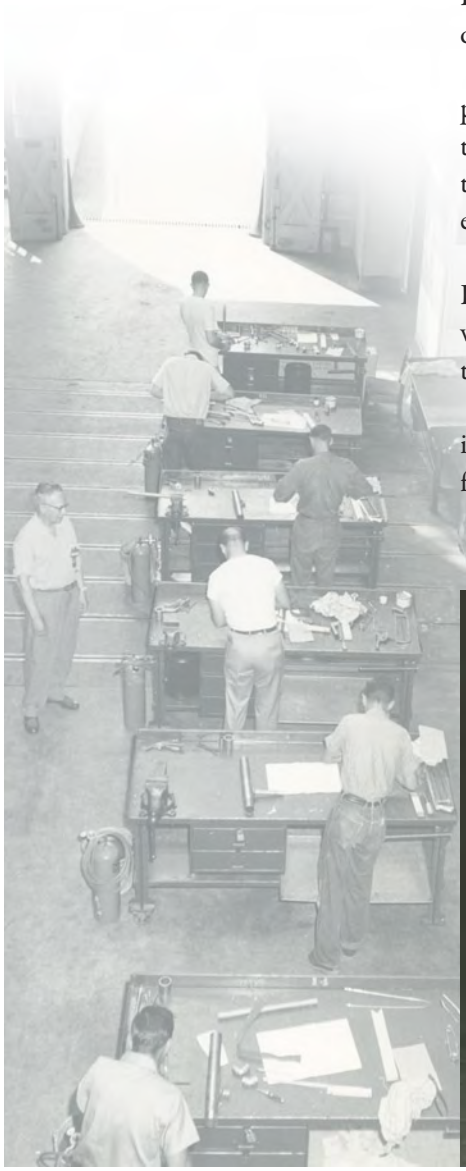




Local unions could send one fifth-year plumbing and pipefitting apprentice to state and provincial contests. The winners of these contests would compete at the international level at Purdue University. Each group winner received $1,000 for first place, $500 for second place, and $250 for third place—generous awards for that time.

General President Durkin recognized, just as we do today, that one of the biggest challenges is showing those outside the United Association what is expected of an apprentice and the advantages of a UA apprenticeship. It wasn't an easy story to tell 71 years ago. However, General President Durkin and the International Training Committee dedicated themselves to the effort. We continue to enjoy the benefits of their vision today.

THE FIFTIES AND SIXTIES



World War II had ended, and the United States and Canada were experiencing significant economic expansion. The nuclear age was also on the horizon, and General President Durkin believed that the construction of nuclear power plants would require tens of thousands of highly skilled tradespeople.

"It will only be a short time until atomic power is used in plants where electric power has been generated by other fuels in the past," General President Durkin told the first group of apprentices and instructors in 1954. "No industry is more important to the construction of atomic plants than that of plumbing and pipefitting. Men must expand their skills in keeping with the expansion of the age."

A few years later, General Secretary-Treasurer William O'Neill echoed General President Durkin when he wrote, "We accept the responsibilities of the new age. We were among the first trade unions to realize that atomic power would play an important role."

Though he could only enjoy attending the first apprentice contest before his death in 1955, General President Durkin likely appreciated what he helped create and the foundation laid for a program that serves the UA so well today.

In the first year, 70 plumbing and pipefitting apprentices attended. In 1955, the number rose to 74, including a future General President, Marvin J. Boede, who received a special award for the "best showing on the copper tube" portion of the program.

As the Sixties approached, a new focus in training emerged—defense projects. When the United States launched its missile defense program, the UA implemented courses to prepare members for this work. During the 1960 contest, a 27-minute Air Force film was shown to the apprentices and instructors. It illustrated the entire fueling process of the Atlas surface-to-air missile, emphasizing that all valves, pipes, and fittings must remain free of contamination to avoid the risk of explosion. General President Peter Schoemann remarked that every pipefitter in the film was a member of the United Association.

"I think we are indeed very fortunate that we conceived the idea seven years ago to educate our members in the real science and art of making installations that are absolutely necessary for the defense actions of these missiles for the safety of our country," he said.

Sprinkler fitter apprentices from Canada participated in the contest for the first time in 1960. American sprinkler fitters had begun competing the year before. John Power, Jr., a member of the National Automatic Sprinkler and Fire Control Association Labor Committee, told the apprentices that each year, $1 billion is lost annually due to fires, stating, "Is it any wonder that you will find yourselves installing automatic sprinklers, not only in factories, warehouses, and stores, but also in churches, schools, and libraries and other places of public assembly. This great age of ours keeps building in new fire hazards as modern technology discovers new products and processes."

By the time of the 1960 contest, less than a decade after its inception alongside the precursor to the Instructor Training Program, the United Association had firmly established itself as the industry's leader in skills training. That year, even Secretary of Labor James P. Mitchell made an appearance, stating that the United Association is "more than a trade union. Today, it is also an educational institution," describing it as "one of the finest examples in America in which trades and industry representatives and UA members all move forward toward a future they prepare for." Additionally, the Secretary alerted the UA and anyone else who was listening: "... The manpower situation will grow increasingly complex within the next decade."

At that time, few understood the extent of complexity that would arise as the U.S. confronted social unrest, a presidential assassination, an increasingly unpopular war, and rising economic uncertainty.

The advent of the Space Age brought a new emphasis on technology, specialized applications, and installations. At the same time, there was an awareness that UA instructors could lead by example. In the words of General President Peter Schoemann, "In the motto of our United Association, we make the boast, 'There is no substitute for UA skilled craftsmen.' This is the idea of the United Association—that all of our journeyman members will be excellent craftsmen, and if they are not yet excellent, that they renew every single day their ambition to work toward achieving complete mastery of their trade. And we want our apprentice members to

be exposed to these ideals from their instructors both on the job and in the classroom and to be inspired by them."

Even as this message of inspiration was being shared, warnings were issued that the House of Labor was likely to be attacked in the months and years ahead—in the words of General President Schoemann, "We could well be on the verge of the most serious trial that our organization has faced since the end of the Great Depression of the 1930s."

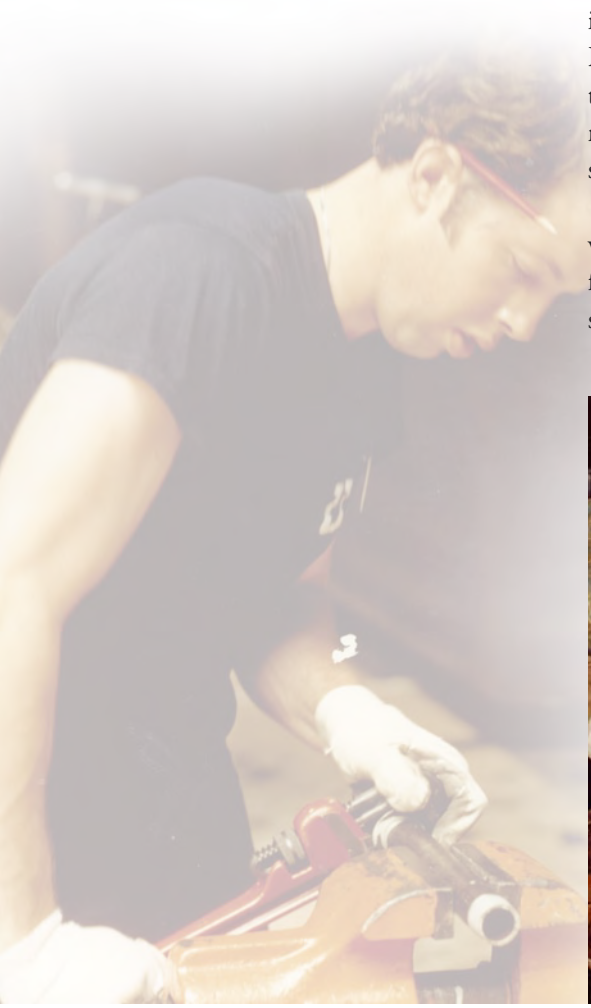
By the end of the decade, concerns were voiced that young men and women who would have traditionally pursued apprenticeships were viewing the world differently. As General President Schoemann noted in 1968, [They] "are profoundly aware of the way the world has shrunk and become really one and who think—rightly or wrongly—they can create a better world by setting aside much of their heritage and trying something different."

THE CONTEST IN THE SEVENTIES

By the early 1970s, the Instructor Training Program and the International Apprentice Contest were so well established that it was hard to imagine the UA without them.

At the same time, there was an increasing emphasis on the big picture. The ability of UA members to perform on the job was viewed as critical to ensuring more jobs in the future. Productivity received special emphasis at the 1972 Instructor Training Program, as evidenced by an excerpt from the October 1972 *UA Journal*: "Productivity is used to measure the achievement of one worker, compared to another ... UA members learn that consistent productivity is the key to success of any union construction project and a guarantee of future work for themselves."

Throughout that year's program, the message was stated again and again: "The best way to demonstrate active support of your union is to provide a fair day's work for a fair day's pay ... if a man doesn't go out and do a job, skills are of little value." At the same time, apprentice contestants were described as "concerned with winning a place for themselves among the skilled craftsmen in the piping trades, and approach their competition with an enthusiasm that rubs off on everyone."



However, the UA was not the only industry segment being targeted—improving job productivity involved all segments. Some believed contractors abdicated their responsibility to manage their jobs in too many instances.

This was also the year when discussions intensified about reducing the apprenticeship term from five years to four, which occurred in 1972. These groundbreaking actions were taken in response to in-

dustry pressures for a faster supply of skilled labor and to compete with the non-union sector. The five-year term for apprentices was reinstated in 1986.

This may have marked the first sign of a significant overhaul of the training program that had started 20 years earlier. Just one year later, in 1973, the announcement was made regarding the cancellation of the International Apprentice Contest.

At that time, the intent was to encourage local unions to focus on training all apprentices and to place less emphasis on competition between local unions. Instead, energies would now be directed at producing the finest craftsmen possible to defend against the open shop.

THE CONTEST RETURNS!

In 2006, General President Bill Hite made a long-awaited and welcomed announcement: the International Apprentice Contest was making a return. "It's time to bring the contest back and showcase the talents of our apprentices by allowing the best of the best to compete for all the world to see," he stated. In the May 2006 *UA Journal*, an Education and Training Department article expressed, "The contest always brought a lot of excitement, and many members were disappointed when it was discontinued ... Starting in 2007, in conjunction with the annual Instructor Training Program in Ann Arbor, MI, we will once again hold the apprentice contest. ..."

Under General President Hite's leadership, a revamped contest returned at the 2007 Instructor Training Program. In recognizing the apprentices, General President Hite said, "They have worked hard to get here, and they are competing at a level that is truly extraordinary." The Education and Training Department announced the contest's return and provided details on when and how local, state, provincial, and regional contests should be conducted. This announcement generated excitement and anticipation, even among those who were unaware of the contest's past history.

There are four levels of competition across five crafts: plumbing, pipefitting, sprinkler fitting, welding, and HVACR service technicians. Contestants may participate starting at their local union competition, providing they are a third- to fifth-year registered UA apprentice and have worked for a contributing contractor for at least 1,500 hours in the prior year.

Local unions send the winner of their competition to the state or provincial level. The winners of the state or provincial contests then compete at the regional level, organized by the six vice presidents' districts of the UA. The winners in each craft from these six districts then advance to the international finals at the Great Lakes Regional Training Center on the Washtenaw Community College campus in Ann Arbor, MI. This marks a significant change from the original contest, which often featured more than 100 apprentices competing throughout the week.

Today, there are five days of competition, including essay submissions, a character interview and an in-depth examination electronically administered in Canvas. Hands-on or skill competitions include projects unique to each craft, with some projects common to all sectors of the piping industry. These projects are undertaken with materials and equipment supplied by contractors, vendors, and the UA.

Since 2007, the contest has evolved and improved. The contest's return has added an element of excitement—and tremendous pride—to the overall UA Week in Ann Arbor, MI, each summer. Local union officers, instructors, and rank-and-file members anxiously await the results, which are presented during the graduation ceremony for graduating instructors.

Additionally, a leadership award named in honor of retired Training Directors Allyn Parmenter and George Bliss acknowledges the apprentice who demonstrates the highest level of leadership and embodies the qualities essential for upholding the UA's Standard for Excellence.

In 2015, Alanna Marklund, a welding competitor from Canada, became the first woman to participate in the International Apprentice Contest. Sister Marklund received the Allyn Parmenter and George Bliss Award.

In 2016, the International Apprentice Contest saw its first plumbing competitor from Australia. Several years prior, in August 2012, the United Association and the Plumbing and Pipe Trades Employees Union (PTTEU) of Australia signed a historic affiliation agreement to implement joint skills training and employment initiatives in both North America and Australia. Since then, the PTTEU has sent apprentices from Australia to compete annually in the plumbing and sprinkler fitting sectors.

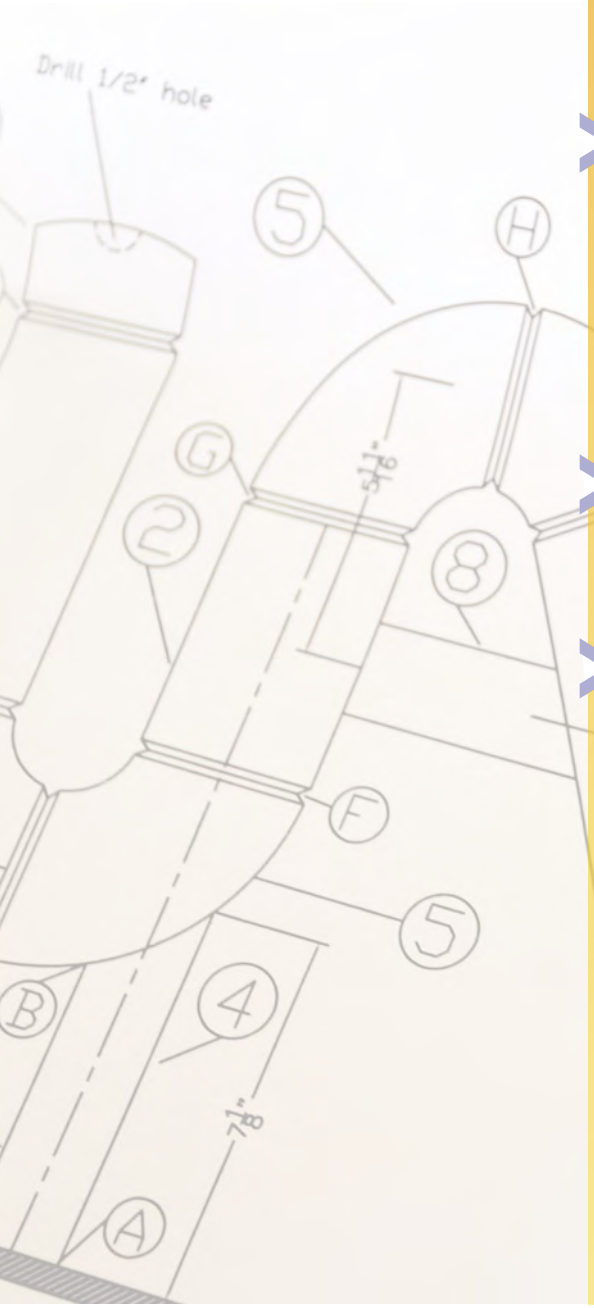
In 2020, General President Mark McManus faced the difficult decision to cancel the Instructor Training Program and the International Apprentice Contest to protect the health of UA members during the COVID-19 pandemic. In 2021, the Instructor Training Program was held virtually due to the ongoing pandemic, resulting in the International Apprentice Contest not taking place. During this period, the International Apprentice Contest Committee revamped all the projects, and the Contest returned in 2022.

In 2022, Karin Dahlin became the first female contestant to compete in the HVACR Service Technician category, where she won. She remarked, "Being a minority in the trades has been challenging in some ways—mostly my own self-doubt and the challenges of learning a trade that I'm not supposed to be good at by many people's expectations. I'm reaping the benefits of years and years of work that the UA has been doing to make the trades more accessible to women and to make the trades kinder and fairer to women and all nontraditional tradespeople."

Despite a 34-year hiatus, the current International Apprentice Contest has exceeded the hopes and expectations set by General President Martin Durkin 71 years ago. The quality of the apprentices, the level of competition, the complexity of evolving technology, and the pride with which competitors engage make the modern version of the International Apprentice Contest more exciting than ever.

The International Apprentice Contest has always served as a launching pad for future leaders of the UA. In 1955, Marvin J. Boede participated as a contestant and later became a General President. The contestants consistently showcase the best of the best, demonstrating strong leadership skills such as initiative, productivity, and a commitment to excellence. These qualities have cultivated members who have ascended to roles such as Vice President, Business Manager, Organizer, Training Coordinator, Training Director, dedicated Instructors, and signatory contractor owners. The characteristics that define apprentices who excel in local, state or provincial, and then district competitions have not only proven their ability to compete in the International Apprentice Contest but also inherently characterize the future leaders of the UA.

APPRENTICE CONTEST RESULTS ANALYSIS



Overview of contest

The United Association (UA) Education and Training Department and the International Training Fund (ITF) host the International Apprenticeship Contest (INAC) every year to showcase excellence among the United Association's most promising new members and to serve as a preliminary gauge of the state of UA apprenticeship training.

About the Contestants

One contestant per trade from each district in the U.S. and Canada is selected to participate in the INAC. To qualify, contestants must first compete in UA apprenticeship contests at the local, state or provincial, and regional levels. In 2024, 30 apprentices participated in the contest, with two Australian candidates joining the plumbing and sprinkler fitting competitions.

Breakdown by trade of contestant years of apprenticeship:

HVACR Service Tech: Two third-year apprentices, two fourth-year apprentices, and two fifth-year apprentices
Pipefitter: Five fifth-year apprentices
Plumber: One third-year apprentice, three fourth-year apprentices, and one fifth-year apprentice
Sprinkler Fitter: Two fourth-year apprentices and four fifth-year apprentices
Welder: Two third-year apprentices, one fourth-year apprentice, and three fifth-year apprentices

About the Judges

The International Apprenticeship Contest Committee selects judges. This year, 11 judges and industry representatives participated. The INAC judges work on a volunteer basis.

Methodology

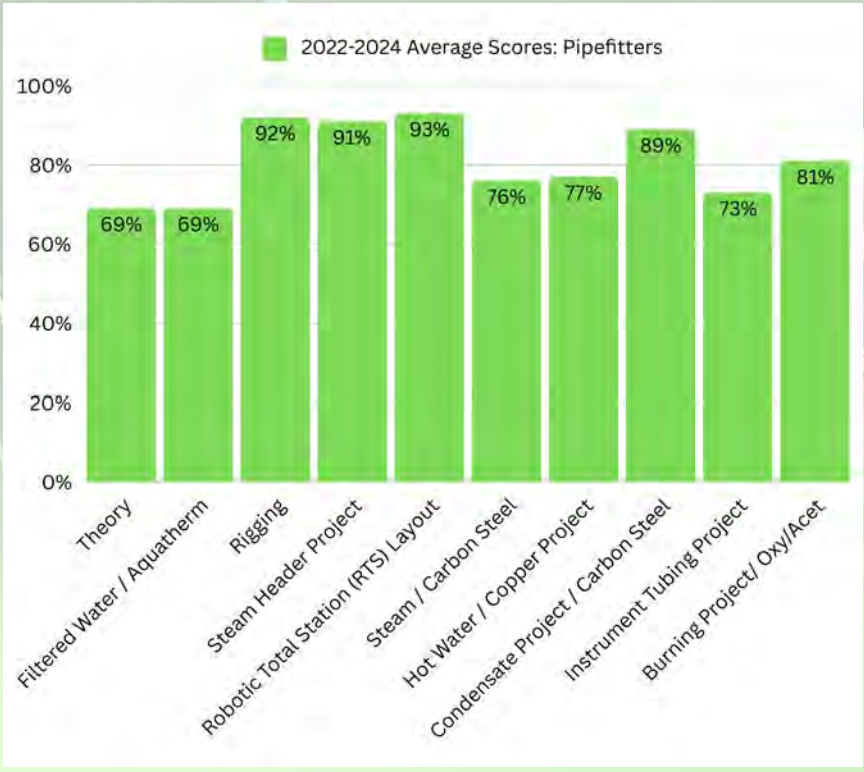
We flagged average scores that were less than 65% as weaknesses in red and greater than 84% as strengths in green. Some categories were also flagged if the data was particularly anomalous, such as when the scores were widely distributed with an unusually high standard deviation. Standard deviation is the measurement of how much scores tend to vary from the average. A low standard deviation indicates that all the scores were close to the average, while a high standard deviation indicates that scores are spread over a wide range of values.

When reading this report, please bear in mind that it is not immediately clear from the data alone whether a poor average score in any category can be attributed to a lack of apprentice training or to the design of the assessment.

> > > INDIVIDUAL CRAFT SCORES

2024 Welder Scores

	Combined Project	Theory	Foreman Training	OXY-ACET	Rigging	Copper	Main Project
Weighting	**10%**	**10%**	**5%**	**5%**	**5%**	**10%**	**55%**
Contestant scores (highest to lowest)	**87** 84 80 79 79 75	73 73 71 66 65 **63**	**94** **91** **89** 84 77 70	**92** 79 79 78 73 72	**98** **97** **91** **88** **85** **85**	74 70 70 70 65 **60**	**94** **87** **86** **85** 84 83
Average Score	81%	69%	85%	80%	90%	68%	86%
Standard Deviation	3.69	3.99	8.73	6.70	5.44	4.49	3.71

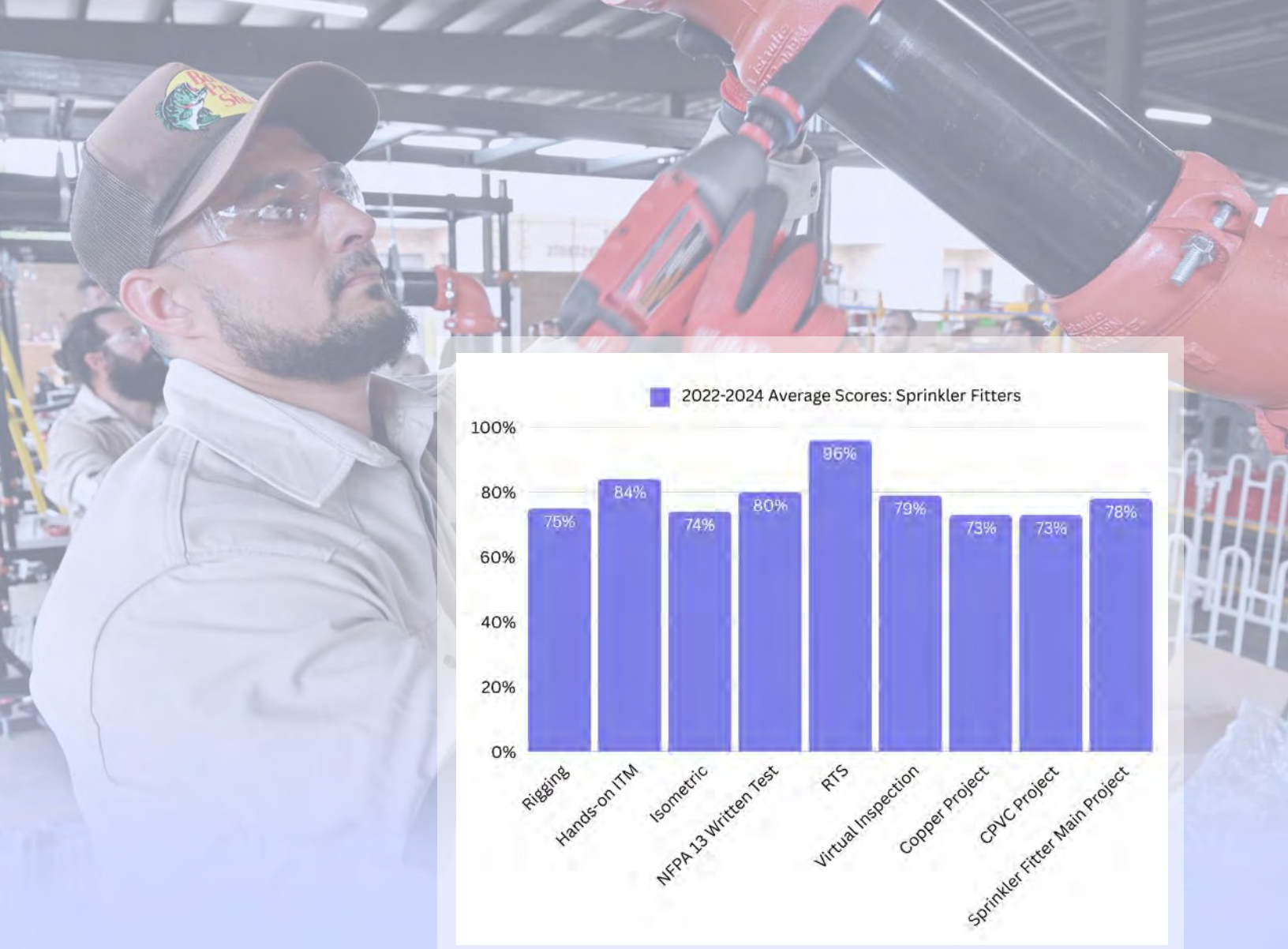


2024 Pipefitter Scores

	Theory	Filtered Water/ Aquatherm	Rigging	Steam Header Project	Robotic Total Station Layout	Steam/ Carbon Steel	Hot Water/ Copper Project	Condensate Project / Carbon Steel	Instrument Tubing Project	Burning Project/ Oxy/Acet
Weighting	**14%**	**12%**	**6%**	**10%**	**6%**	**12%**	**12%**	**12%**	**10%**	**6%**
Contestant scores (highest to lowest)	80 71 71 **58** **53**	**92** **90** 70 **41** **31**	**95** **95** **88** **88** **86**	**100** **95** **95** **94** **91**	**90** **85** 83 80 79	84 82 79 75 **56**	**88** **88** 82 76 76	**91** **91** **90** 82 79	**94** **92** **89** **88** **86**	**95** **91** 82 71 66
Average Score	66%	65%	90%	95%	83%	75%	82%	87%	90%	81%
Standard Deviation	9.77	24.81	4.00	2.98	3.93	10.14	5.28	4.99	2.62	11.02

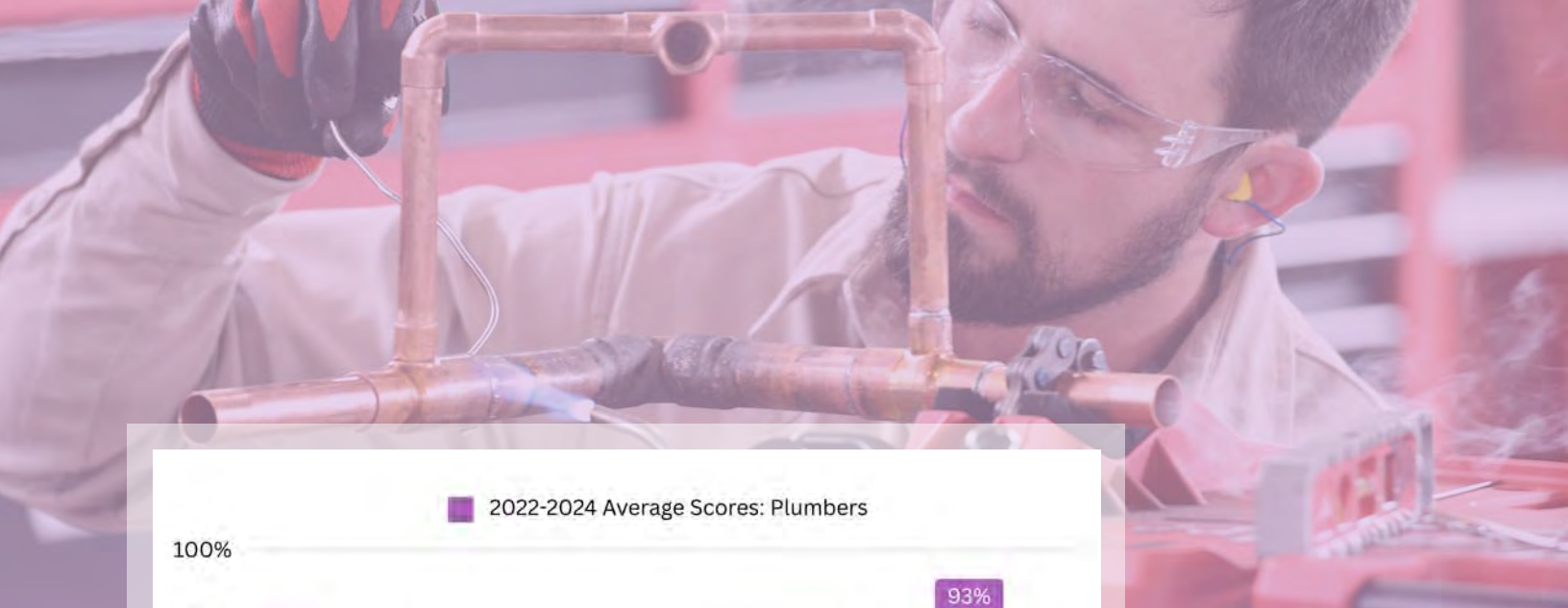
2024 Service Technicians Scores

	Rigging	Written Theory	MSCA Interview	Recovery/ Evacuation/ Charging	Copper Project	Controls Schematic	Startup report with load calculations and report	Electrical Wiring	ABB Frequency Drive	Troubleshooting	Electrical Panel Troubleshooting
Weighting	**5%**	**5%**	**5%**	**15%**	**10%**	**5%**	**5%**	**15%**	**5%**	**25%**	**5%**
Contestant scores (highest to lowest)	**55**	77	**93**	**96**	79	73	**97**	**87**	**95**	66	82
	54	75	**87**	**95**	78	70	**87**	**87**	**93**	**63**	**18**
	44	75	83	**94**	71	69	85	**58**	**92**	**63**	**18**
	43	73	80	**88**	73	**61**	83	**55**	**92**	**59**	**9**
	39	**62**	80	84	75	**61**	82	**39**	83	**49**	**0**
	35	**50**	70	66	**37**	**44**	68	**29**	63	**43**	**0**
Average Score	45%	69%	82%	87%	69%	63%	84%	59%	87%	57%	21%
Standard Deviation	7.33	9.67	7.11	10.46	14.56	9.42	8.36	22.01	11.13	8.25	28.10



2024 Sprinkler Fitters Scores

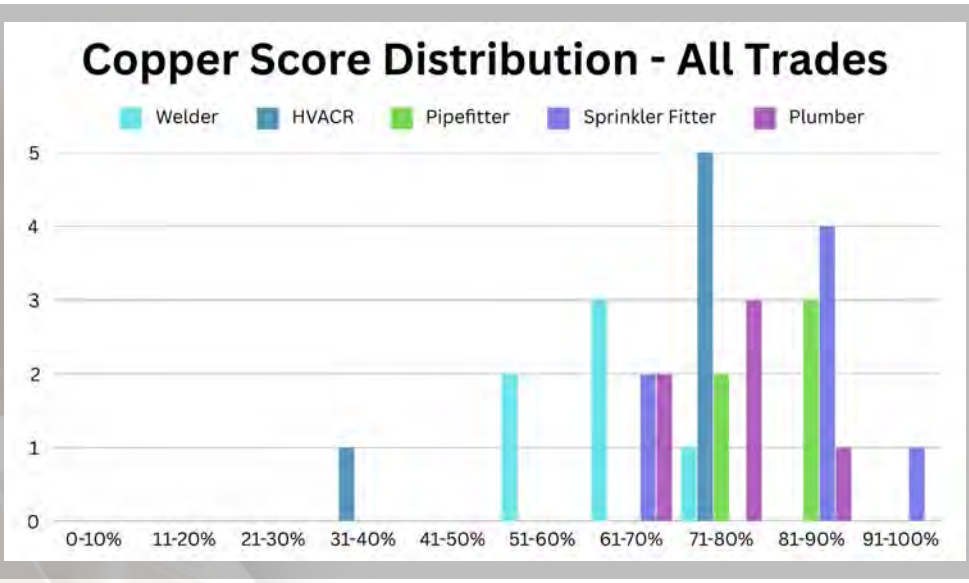
	Rigging	Hands-on ITM	Isometric	NFPA 13 Written Test	RTS	Virtual Inspection	Copper Project	CPVC Project	Sprinkler Fitter Main Project
Weighting	**5%**	**10%**	**5%**	**15%**	**5%**	**10%**	**5%**	**10%**	**35%**
Contestant scores (highest to lowest)	**98** **95** 72 **58** **55** **48** **28**	**94** **88** **89** 81 75 73 66	**90** **88** **88** 85 73 65 **43**	**98** **98** **96** **95** **93** **87** 74	**99** **99** **98** **97** **92** **89** 82	**90** **90** **90** 70 70 70 70	**98** **90** **88** **85** 83 70 68	**91** **91** **88** 76 75 73 **56**	**96** **85** 83 83 79 67 **63**
Average Score	65%	80%	76%	91%	94%	79%	83%	79%	79%
Standard Deviation	23.37	8.78	15.86	7.99	5.81	9.90	9.98	11.70	10.48

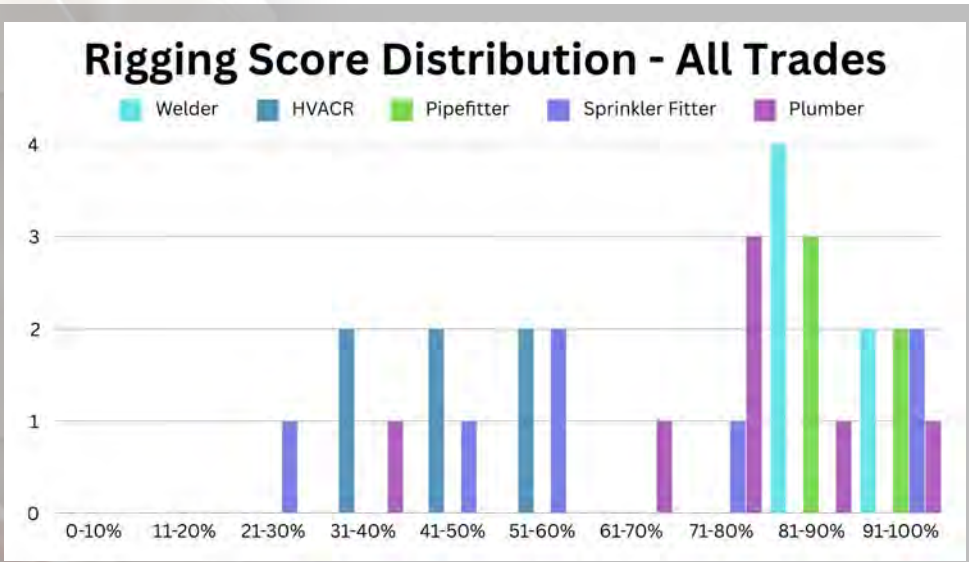


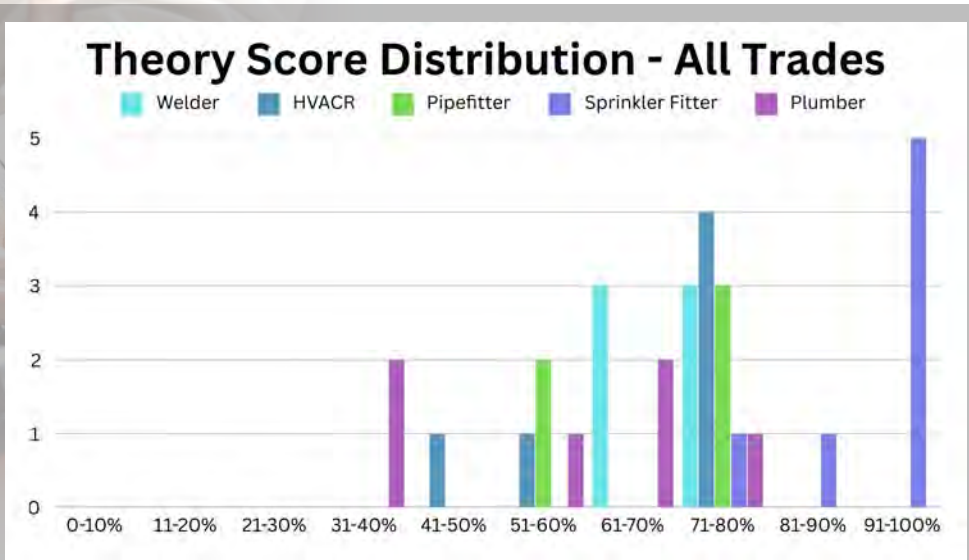
2024 Plumbers Scores

	Rigging	Design and Sketch	Theory	Offsets	Service Written	Solar Hot Water	Service Interview	Foreman Training	Copper	Layout	Plumber Main Project
Weighting	5%	5%	10%	5%	5%	5%	5%	5%	10%	5%	30%
Contestant scores (highest to lowest)	92 90 88 87 73 37	95 85 83 75 62 60	72 69 64 58 39 32	17 17 13 13 13 7	61 61 60 51 47 43	95 53 51 51 47 46	95 92 85 75 70 60	90 85 80 70 65 60	82 80 77 76 64 64	86 86 86 86 77 75	74 73 57 47 40 9
Average Score	78%	77%	56%	13%	54%	57%	80%	75%	74%	83%	50%
Standard Deviation	19.33	14.18	20.85	3.33	17.48	21.80	13.51	13.29	11.34	7.49	22.02

SCORE COMPARISONS

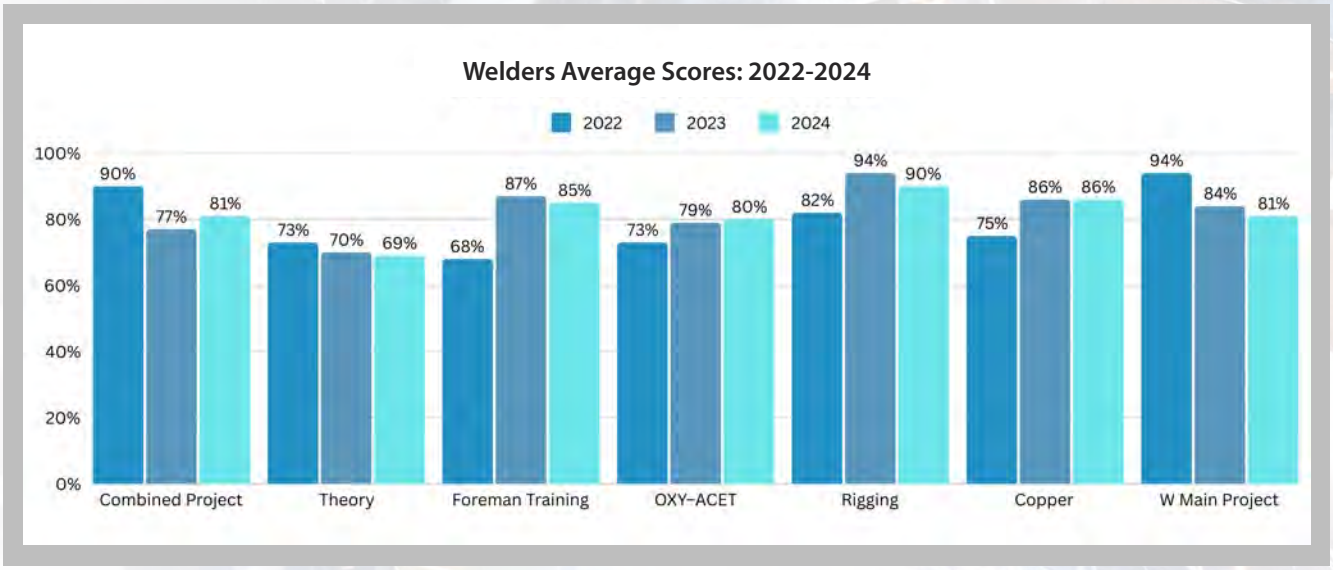


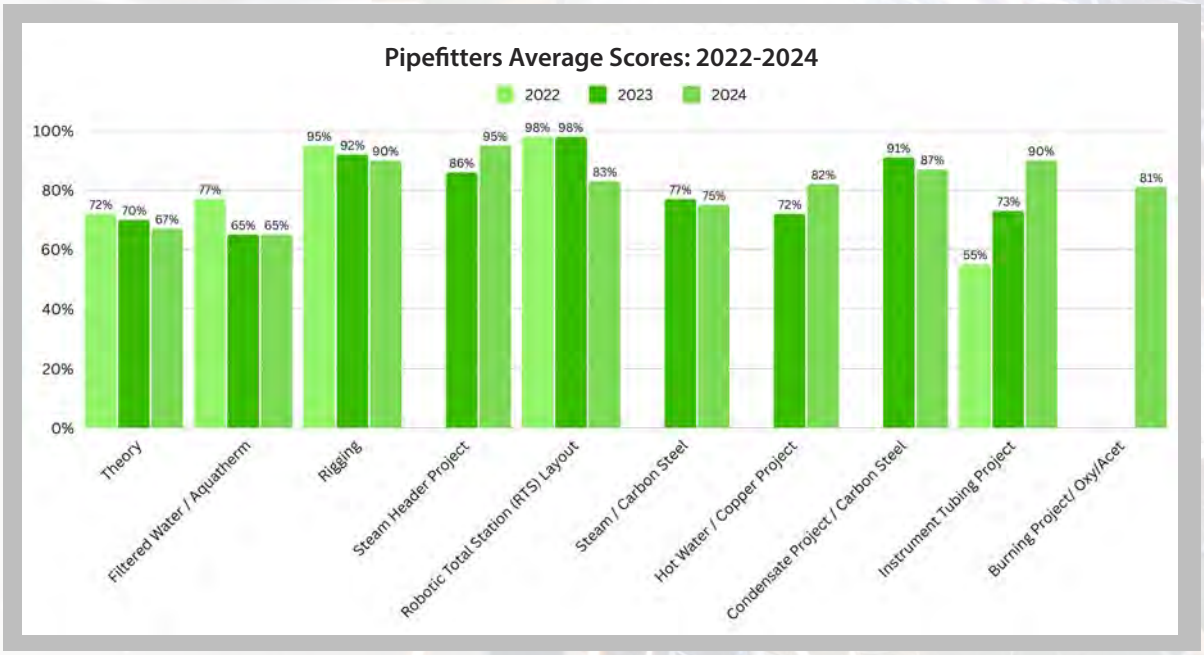




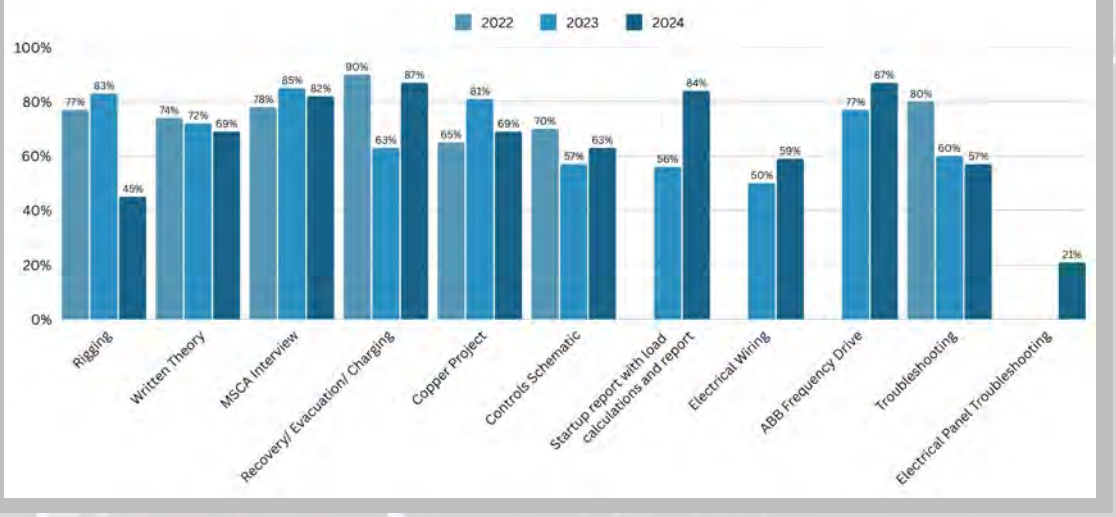
AVERAGE SCORES 2022-2024

Because of format changes in projects, some projects may not have been attempted every year. In a case where they were not, a blank space will appear.

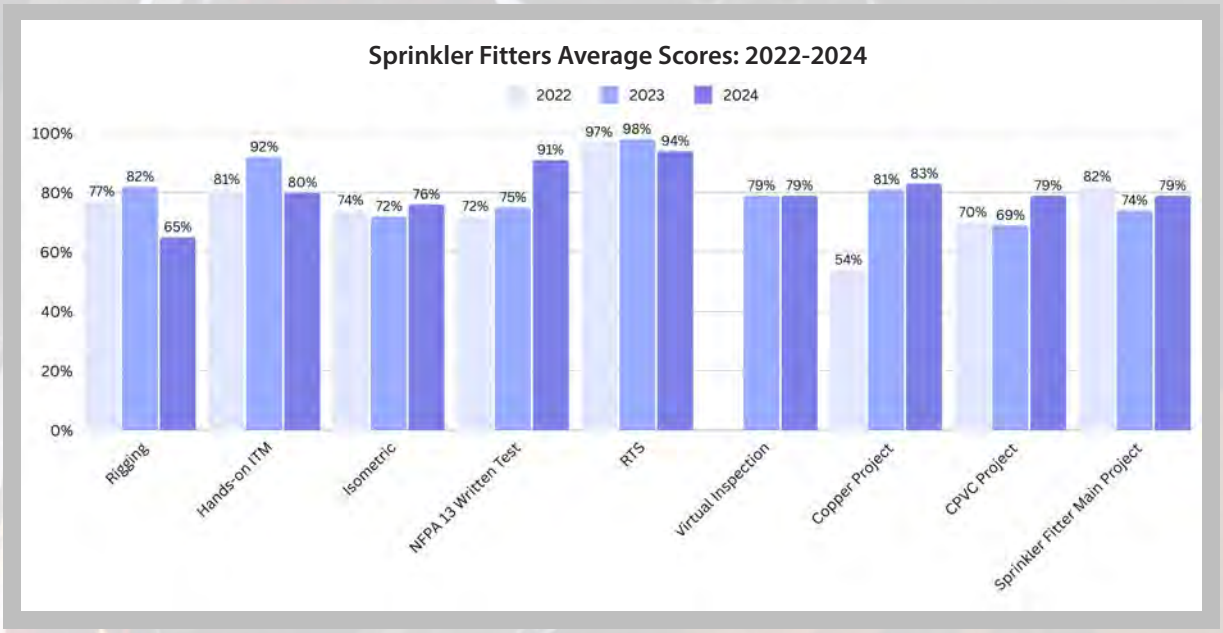




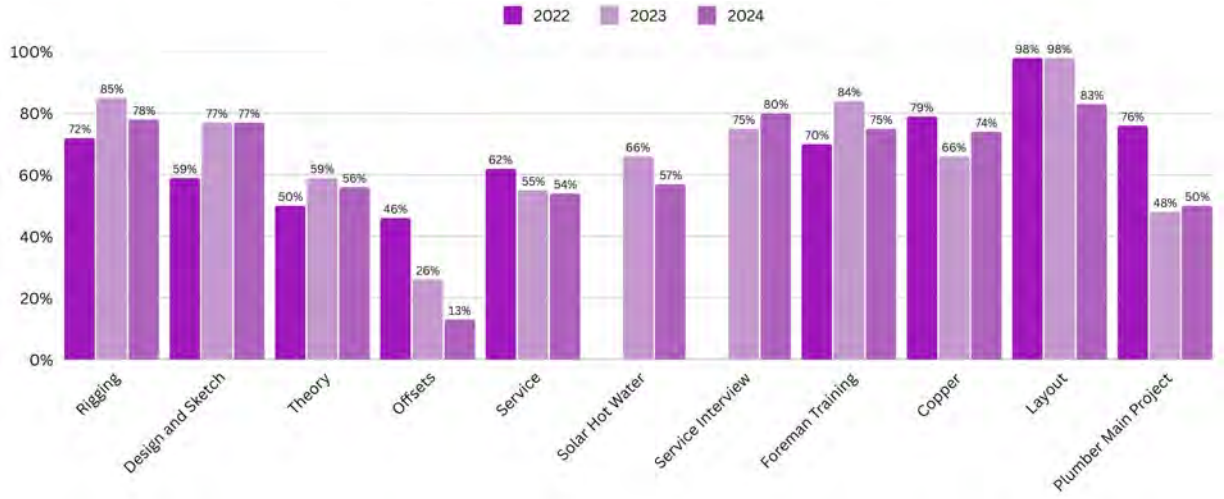
HVACR Service Techs Average Scores: 2022-2024



Sprinkler Fitters Average Scores: 2022-2024



Plumbers Average Scores: 2022-2024



CONCLUSIONS

2024 Top Strengths:

a. **HVACR Service Technician:**
   i. *Recovery/Evacuation/Charging* - HVACR Service Technicians scored an average of 87% on Recovery/Evacuation/Charging, with a low score of 66%, a high score of 96%, and a standard deviation of 10.46.

b. **Pipefitter:**
   i. *Steam Header Project* - Pipefitters scored an average of 95% on the Steam Header Project, with a low score of 91%, a high score of 100%, and a standard deviation of 2.95.

c. **Plumber:**
   i. *Layout* – Plumbers scored an average of 83% on Layout, with a low score of 75%, a high score of 86%, and a standard deviation of 7.49.

d. **Sprinkler Fitter:**
   i. *Robotic Total Station* – Sprinkler Fitters scored an average of 94% on Robotic Total Station, with a low score of 82%, a high score of 99%, and a standard deviation of 5.81.

e. **Welder:**
   i. *Rigging* – Welders scored an average of 90% on Rigging, with a low score of 85%, a high score of 98%, and a standard deviation of 5.44.

2024 Weaknesses:

a. **HVACR Service Technician:**
   i. *Electrical Panel Troubleshooting* - HVACR Service Technicians scored an average of 21% on Electrical Panel Troubleshooting, with a low score of 0%, a high score of 82%, and a standard deviation of 28.10.

b. **Pipefitter:**
   i. *Filtered Water/Aquatherm* – Pipefitters scored an average of 65% on Filtered Water/Aquatherm, with a low score of 31%, a high score of 92%, and a standard deviation of 24.81.

c. **Plumber:**
   i. *Offsets* - Plumbers scored an average of 13% on Offsets, with a low score of 7%, a high score of 17%, and a standard deviation of 3.33.

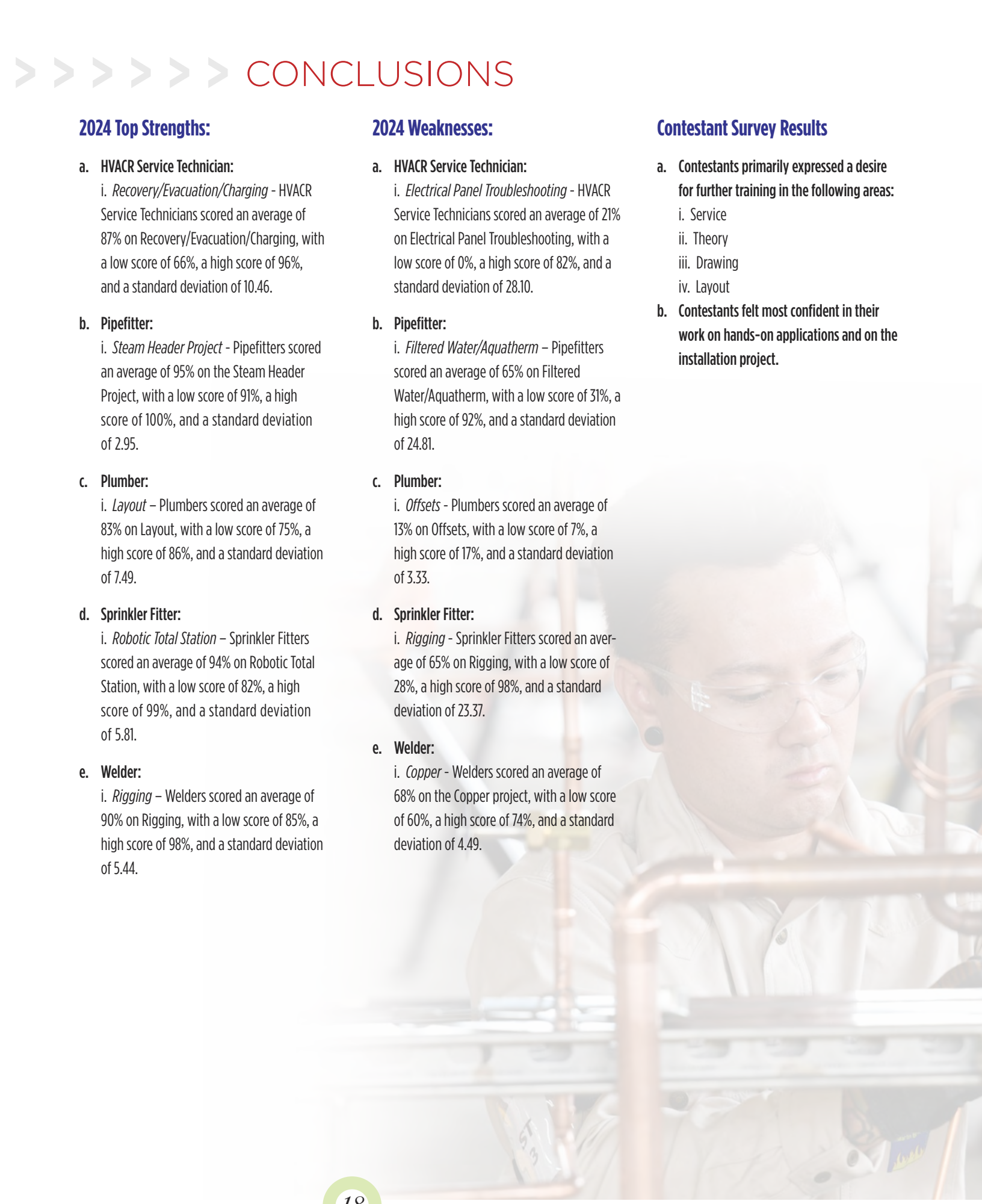
d. **Sprinkler Fitter:**
   i. *Rigging* - Sprinkler Fitters scored an average of 65% on Rigging, with a low score of 28%, a high score of 98%, and a standard deviation of 23.37.

e. **Welder:**
   i. *Copper* - Welders scored an average of 68% on the Copper project, with a low score of 60%, a high score of 74%, and a standard deviation of 4.49.

Contestant Survey Results

a. **Contestants primarily expressed a desire for further training in the following areas:**
   i. Service
   ii. Theory
   iii. Drawing
   iv. Layout

b. **Contestants felt most confident in their work on hands-on applications and on the installation project.**



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