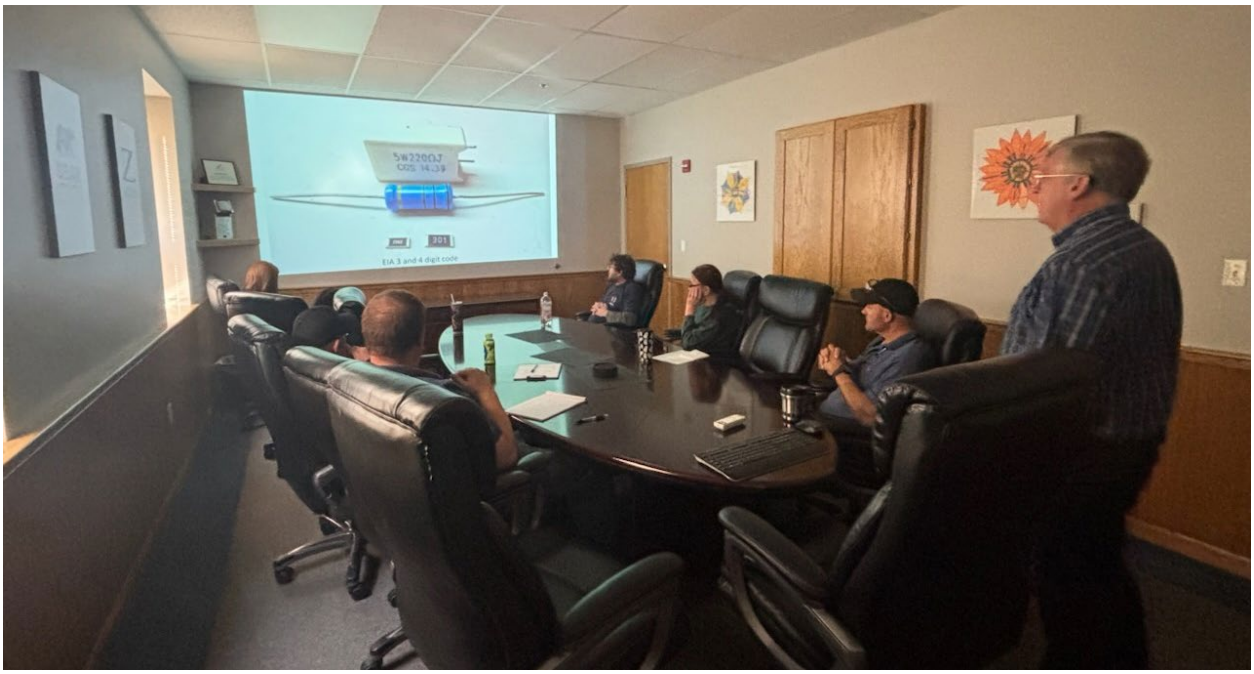
# Training at Z-AXIS

Peter Drucker was a management expert and educator who once wrote, “If you think training is expensive, try ignorance.” Michael Allen, president and co-owner of Z-AXIS and its Bear Power Supplies Business Unit, has kept a copy of Drucker’s quote for 34 years. A piece of paper in a desk drawer might seem inconsequential, but it’s helped guide a training program that’s getting results.

As an electronics contract manufacturer, Z-AXIS benefits when its employees increase their knowledge of processes like soldering and laser marking. The company also wins when employees learn more about schematics and printed circuit board (PCB) layouts. Yet there’s another important benefit as well. As Allen explains, the Z-AXIS training program has boosted employee satisfaction.

“It’s probably the number one thing we’ve done this year that’s increased morale,” Allen says. “We’re raising the knowledge of our employees,” he adds “but we’re also making them happier.”



*Michael Allen (right) leads a training session at Z-AXIS.*

## The Case for Training

Research from the Harvard Business School reveals that companies experience a 17% increase in productivity and a 21% increase in profitability when employees received targeted training. Workers also report greater satisfaction because they feel valued and supported in their career growth. Opportunities to learn new skills improve employee motivation, which can affect retention.

At a time when good workers are hard to find, retaining existing employees is increasingly important. Simply put, turnover is expensive. According to a 2024 UKG Workforce Institute survey of more than

300 human resources leaders at U.S. manufacturing companies, 60% of respondents indicated that the average cost to replace one skilled frontline worker ranges from USD $10,000 to $40,000.

The U.S. Bureau of Labor Statistics (BLS) captures a different but important metric in its monthly Job Opening and Labor Turnover Survey (JOLTS). The quits rate, an indicator of voluntary job departures, is calculated as the number of people who quit their jobs as a percentage of total employment. In its August 2025 JOLTS, BLS reported that the quits rate for all private sector companies with 50 to 249 employees was 3% per month. Z-AXIS has 95 employees and an average quits rate of 2% per month.

Training at Z-AXIS promotes employee retention because workers enjoy the opportunity to connect with colleagues from other departments as they learn from in-house experts in a positive, interactive environment. They also like learning about equipment they might not use but see every day. There's also value in learning about processes that are upstream or downstream of an employee's areas of immediate responsibility.

## Initial Training at Z-AXIS

All new hires receive what Allen calls "Level 1 and Level 2" training. Level 1 instruction occurs right away and is designed to orient new employees to their physical environment. It covers basics such as the locations of restrooms and fire exits. Level 2 training occurs soon after and is role-specific. In other words, what employees learn is a function of the work they'll perform.

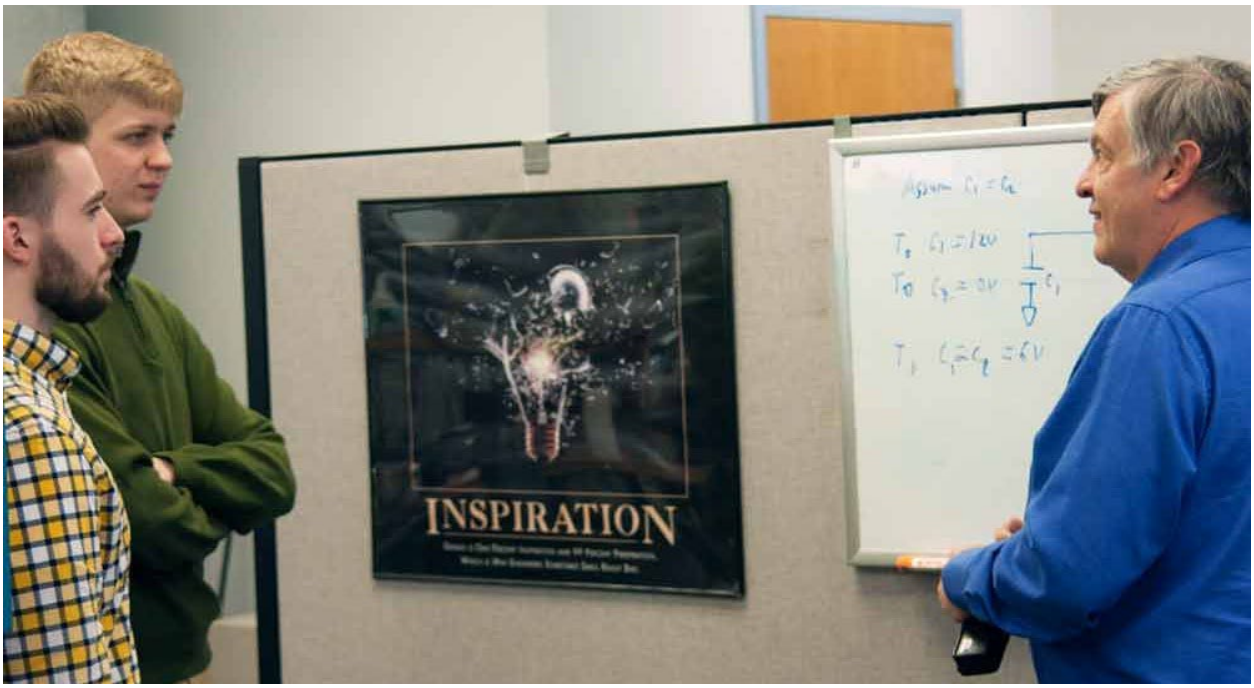
For example, if you're hired to solder printed circuit board assemblies (PCBAs), you'll receive instruction in IPC J-STD-001 (i.e., the "J standard"). You'll also receive training in IPC-A-610, a standard that defines practices for evaluating solder joint availability. The Z-AXIS employees who provide this training are certified to these industry standards.

The training is intense, and each IPC standard requires a week of coursework. Not everyone passes the tests at the end, but those who do become certified IPC specialists. They can also begin the next phase of their Z-AXIS training, which is optional, ongoing, and popular.

## Ongoing Training That's a Level Up

Unlike the Level 2 instruction that employees receive, the ongoing training that Z-AXIS offers isn't limited to specific jobs or roles. In fact, it's open to all employees. Training is offered weekly and consists of 30-minute sessions. That's the right frequency and duration to encourage employee participation, and Z-AXIS has offered these fun and informative sessions since March 2025.

The instructors have included Michael Allen and Joe Sklepik, Z-AXIS' Production Manager, as well as personnel from the company's Information Technology, Document Control, Engineering and Human Resources departments. Training covers a variety of topics, and there are 30 to 40 different classes overall. Employees can decide which classes to attend, and participants receive a certificate at the end.




*At Z-AXIS, learning is ongoing.*

**Previous Classes**

This is a list of classes that Z-AXIS has offered so far.

- Measurements and Tolerances
- Intro to 3D CAD
- Wave and Selective Solder
- Intro to the Milling Machine
- SMT Kit Prep/Towers
- Intro to Quality Inspection
- ESD, MSL and F.O.D
- Clocking on/off a job
- Wellness- Eat your way to better health
- Basics of Yogi and Shop Floor*
- Schematics and PCB Layouts
- Magnetics
- Intro to Excel
- Intro to Solder
- Basic Electronics
- Z-AXIS Part Numbers
- How to use Calipers
- What is a Multi Meter?
- How to Use Paychex Flex

- Yogi Advanced*

*Yogi is an internal database that's linked to Z-AXIS' Enterprise Resourcing Planning (ERP) system.

Some classes, such as Measurements and Tolerances, enable employees to improve their skills or learn new ones. Others, such as Wave and Selective Solder, offer an overview that even non-manufacturing employees can benefit from. There are also classes, such as How to use Paycheck Flex, that apply to anyone who wants to see available vacation time.

Whenever possible, classes are hands-on. For example, when Z-AXIS offered What is a Multi Meter? training, employees learned how to use a multimeter, an electronic measuring instrument for testing electrical circuits. Participants were provided with their own multimeters and measured voltages on a battery, the resistance of the air, the resistance of a short, and the resistance of the employee. They also measured currents and learned why a 1.5V battery doesn't deliver a harmful electric shock to the human body.

### Future Classes

Z-AXIS plans to repeat these classes in the future and will offer the following sessions as well.

- Basics of AOI
- 401K Presentation
- Part and Polarity Marking
- Types of tools for Measuring
- Understanding Mechanical Drawings
- Conformal Coating
- Schematics and Board Layouts
- Laser Marker
- Intro to Word
- Radial Inserter

"We keep coming up with ideas that we can teach," Michael Allen says, "and 30 minutes is not like going to school for three weeks."

### Teaching for a Living

A graduate of the Rochester Institute of Technology (RIT), Allen holds a Bachelor of Science in Electrical Engineering. That's not a course of study that most teachers follow, but that doesn't mean he's not an educator. "When people who don't know me meet me for the first time, they often ask what I do for a living," Allen says. "I tell them I'm a teacher."