

# School Catalog

## Cleveland Industrial Training Center

### Akron CNC Training Center (Learning Center)



Cleveland Industrial Training Center Inc

1311 Brookpark Road

Cleveland, OH 44109

216-459-9292

[Reg# 93-04-1357T](#)



Akron CNC Training Center (Learning Center)

1169 Brittain Road

Akron, OH 44305

330-849-5179

[Reg# 93-04-1357T-LC](#)

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# INTRODUCTION

Cleveland Industrial Training Center was founded in an effort to satisfy the need for qualified computer numerical control (CNC) machine tool personnel.

The school is located in a heavily industrialized area at 1311 Brookpark Road in Cleveland, Ohio. Training is conducted in a manufacturing facility (Borman Enterprises, Inc.) which allows students and graduates hands-on access to CNC machine tools as well as quality control equipment and tooling.



All Cleveland Industrial Training Center/Akron Learning Center instructors are well-qualified machine operators and programmers who combine their experience and knowledge with a desire to teach. Specialized assistance is available for those who require tutoring. Auxiliary aids and services are available upon request for individuals with disabilities. Cleveland Industrial Training Center/Akron Learning Center believes in the principle and practice of Equal Employment Opportunity.

In July of 2007, Cleveland Industrial Training Center petitioned the State Board of Career Colleges and Schools for a Learning Center to be located at 1169 Brittain Road in Akron, Ohio. Approval was granted at the September board meeting and operations began with a first class start of November 19, 2007. The Learning Center is known as the Akron CNC Training Center.

Training Center classes and lab projects will be conducted in Hawk Manufacturing. This follows the model of CITC whereby the training is conducted in an actual operating manufacturing facility.

Cleveland Industrial Training Center/Akron Learning Center is registered with the State Board of Career Colleges and Schools Registration #93-04-1357T and 93-04-1357LC.

Cleveland Industrial Training Center/Akron Learning Center is a member of the Ohio-Michigan Association of Career Colleges and Schools.

Ohio Relay Service number is 1-800-750-0750

# ADMISSIONS

## ENROLLMENT POLICY

Registration will be accepted during office hours. Please call for an appointment.

## ENTRANCE REQUIREMENTS

### *CNC Programming & Operation/Machine Tools*

All students must possess a high school diploma or GED to attend. Prior to acceptance, an applicant must take part in an on-site interview and successfully complete the CITC on-line evaluation. If the first attempt at the entrance evaluation is unsuccessful, applicant may retake the evaluation no sooner than two weeks after the first attempt.

### *CNC Swiss Machine Operations*

In addition to the general requirements noted above, all applicants for the CNC Swiss Turning Operations program must take and pass the CNC Swiss machine entrance exam. Applicants are advised to inquire as to the general content of the Swiss entrance exam during their on-site interview.

**NOTE:** Recent graduates (3 years) of CITC or the Akron CNC Training Center's 272-hour CNC Programming and Operations program are automatically eligible for acceptance to this program.

## COURSE REQUIREMENTS

In order to ensure the future success of on-the-job performance, the applicant must possess the ability (physical or otherwise) to utilize the knowledge and skill gained in the program.

# ATTENDANCE POLICIES

## ATTENDANCE RECORDS

Regular attendance is essential. The attendance record for each student is part of his/her permanent record and will be used as a basis for recommendations by our placement counselors.

## ABSENCE POLICY

Each student must report every day he/she is scheduled to attend class. Once a student has missed two consecutive or four days overall, his/her counselor will be notified and the student will be on probation for the following month. If absences continue, the student may be subject to dismissal by the director. All absences will be made up on Monday-Thursday, 1:00pm-4:00pm or Friday by appointment. Cleveland Industrial Training Center/Akron Learning Center does not differentiate between excused or unexcused absences.

**NOTE:** A student receiving VA Educational Benefits who has missed 15% of the total hours will be dismissed from the program for VA payment purposes.

## MAKE-UP WORK

All requests for assignments must be called in. Completed work is expected to be handed in upon returning to class.

## TARDINESS

A student reporting twenty minutes late for a scheduled class will be considered tardy. Three tardies of twenty minutes will be counted as a half-day absence and may be cause for an interruption of the student's training. A record of tardies will be maintained. Two tardies of more than ninety minutes will be counted as one full-day absence.

## LEAVE OF ABSENCE

If a leave of absence becomes necessary, it must be requested in writing and becomes part of the student's file. Credit may be given for training completed; all situations will be considered on an individual basis. A student may be able to restart the program if desired, permitted there is space availability.

# DRESS CODE POLICY

## DRESS CODE:

It is understood that the training at CITC/Akron Learning Center is conducted in an industrial environment. Safety, comfort, and practicality are all taken into consideration in determining what is and is not acceptable school attire. Regardless of the policy itself, students should realize that industrial settings contain oils, lubricants, and chemicals that may stain clothing. CITC/Akron Learning Center is not responsible for any damage to clothing.

The following items are forbidden:

- : any open-toed shoe
- : tank tops, sleeveless shirts, and shorts
- : extremely baggy or loose fitting shirts or pants as determined by the instructor
- : loose or dangling neck or wrist jewelry

In addition to those items mentioned above, any shirt, cap or article of clothing containing symbols, slogans, or words deemed offensive to others is prohibited. This is a work environment and good taste should be in order.

A student will receive a verbal warning on first offense with instructions not to wear the item again. Should a second offense occur, the student will be sent home to change with the opportunity to return. A third offense will result in the student being sent home for the day and an absence recorded for the time missed.



Learn programming @ Cleveland Industrial Training Center

# GRADING POLICIES

## GRADING SYSTEM

The student will be evaluated on a numerical grading system with 100 points being the maximum and 70 points being the minimum acceptable grade.

## MINIMUM GRADES

A student must maintain an acceptable grade average in both class and laboratory tasks. A student experiencing difficulty in a subject is encouraged to discuss the problem with the instructor and make arrangements for additional assistance. Additional staff members will be available for advising as required. A student must pass four tests and a proficiency evaluation in lab. He/she must attain an overall 70% GPA (based on a standard grading scale) to pass the program.

### Standard Grading Scale

90-100%     A

80-89.9%    B

70-79.9%    C

60-69.9%    D

Below 60%    F

## TRANSCRIPT POLICY

Each student will be given a copy of his/her grades and evaluations. Permanent files will be retained. Additional copies are available for a small fee.

## COURSE INCOMPLETIONS

A student informed of incomplete work will have four weeks to complete the missed work. If assignments are not completed within the allotted time frame, a failing grade will be issued.

## PREVIOUS TRAINING

Credit may be granted to a student for prior schooling or training as related to course content. A student will be required to obtain an 80% or better on a proficiency exam administered by the Cleveland Industrial Training Center/Learning Center in order to be granted exemption from course material.

**NOTE:** Should a student's GPA fall below 70% during the program, the student will be placed on probation with one week to improve to 70% or better. If there is no improvement after one week, the student will be dismissed. A student receiving VA educational benefits will be dismissed for VA payment. Re-entry into the program will be determined at the director's discretion.

## NEW APPLICANTS

Upon application, all new applicants will be assigned an advisor. At this time, the applicant will be made aware of programs offered, school policies, financial assistance, and job placement assistance.

**NOTE:** During the course of the program, an advisor will be available to each student for assistance as requested.

## GRADUATION REQUIREMENTS

A student's accumulative score must be 70% or higher. A completed, acceptable resume and/or signed placement waiver form must be submitted. All tuition payment obligations must be met. Upon successful completion students will be awarded a certificate of completion.

## CONDUCT

Each student is expected to conduct him/herself within the bounds of acceptable behavior and appearance. Conduct disruptive to the educational process or destruction of school and/or others' property may be cause for interruption of the student's training or permanent dismissal. Students eligible to reapply must do so within thirty days.

## REJECTION/COMPLAINT

An applicant rejected by the school before enrollment shall be entitled to a full refund of all monies paid.

Student concerns/complaints should be brought to the attention of the school director.

If a student is from an agency, a discussion with the student's counselor is arranged. If the situation remains unresolved, the student may contact the State Board of Career Colleges and Schools at 30 East Broad Street, 24th floor, Suite 2481 Columbus, OH 43215. (614) 466-2752, toll free 1-877-275-4219.

## TOBACCO POLICY

***CITC and all affiliates are tobacco-free environments.***



# PLACEMENT SERVICES

Cleveland Industrial Training Center/Learning Center offers job placement assistance. A reasonable effort will be made to assist the student in securing employment upon completion. Cleveland Industrial Training Center/Learning Center cannot guarantee placement.

Successful placement will depend, to great extent, on the student's academic and attendance records.

The placement assistance of the school will include, but not be limited to:

1. An employment orientation prior to graduation. This orientation will provide the essential information relating to job interviews with emphasis on attitude, appearance, and attendance.
2. Assistance with applications and employment forms.
3. Assistance with preparation of resume and letters of recommendation.
4. Preparation of transcripts.
5. Efforts to arrange interviews with prospective employers.
6. Contact with employers to promote graduates.

While the above services are maintained primarily for current graduates, Cleveland Industrial Training Center/Learning Center may provide assistance to alumni at no additional cost.



# REFUND POLICY

A student who starts class and withdraws before the academic term is fifteen percent completed will be obligated for twenty-five percent of the tuition and refundable fees plus the registration fee.

A student who starts class and withdraws after the academic term is fifteen percent complete but before the academic term is twenty-five percent completed will be obligated for fifty percent of the tuition and refundable fees plus the registration fee.

A student who starts class and withdraws after the academic term is twenty-five percent completed but before the academic term is forty percent completed will be obligated for seventy-five percent of the tuition and refundable fees plus the registration fee.

A student who starts class and withdraws after the academic term is forty percent completed will not be entitled to a refund of the tuition and fees.

In the case of documented student illness or accident, death in the family, or other circumstances beyond the control of the student shall be entitled to special consideration and the school may settle the account for an amount which is less than that called for by the school's established policy.

VA Applicants: Refund policy will conform to VA pro-rated policy per CFR21.4225.

Please see restart charges under "Schedule of Fees" on page 19.



Learn set-up @ Cleveland Industrial Training Center

# PROGRAM START DATES & SCHOOL CALENDAR

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## CLEVELAND INDUSTRIAL TRAINING CENTER

### *CNC Programming & Operation/Machine Tools*

#### **Morning Classes**

Monday - Thursday:

8:00am-12noon

Coming soon

01/17/2022-05/12/2022

#### **Evening Classes**

Monday - Thursday:

5:00pm-9:00pm

08/02/2021-11/24/2021

11/29/2021-04/07/2022

#### **Afternoon Classes**

Monday—Thursday:

12:30pm-4:30pm

TBD

### *CNC Swiss Machine Operations*

#### **Morning and Evening Classes**

Monday - Thursday:

8:00am-12noon

10/25/2021-11/24/2021

Monday—Thursday:

5:00pm-9:00pm

11/29/2021-12/23/2021

**~All dates subject to change without notice~**

**Cleveland Industrial Training Center/Learning Center will observe the following holidays:**

01/01/2021: New Year's Day

05/31/2021: Memorial Day

07/05/2021: Independence Day

09/06/2021: Labor Day

11/25/2021: Thanksgiving Day

12/24/2021-01/09/2022: Christmas break

**PROGRAM OUTLINE AND COURSE  
DESCRIPTIONS**

CNC PROGRAMMING & OPERATION-MACHINE TOOLS: 272 clock hours  
17 weeks

This course will enable the trainee to learn to program (using CAD/CAM), setup, and operate computer numerical control (CNC) machine tools combined with using quality control instruments, shop mathematics, and blueprint reading. Graduates will qualify for a number of entry-level positions including but not limited to: machine trainee, machinist apprentice, CNC operator, CNC programmer.

Course No.	Course Title	Lecture hours	Lab hours
101	Machine tool safety & operations	16	16
102	Blueprint analysis, machining methods	24	8
103	Speeds & feeds	14	2
104	Shop mathematics	52	0
105	Process sheet & program manuscript	40	4
106	Machining operations, editing & tooling	8	64
107	Quality control	6	10
108	CAD/CAM analysis	0	8
<b>TOTALS</b>		<b>160</b>	<b>112</b>



Lathe instruction @ Cleveland Industrial Training Center

# COURSE DESCRIPTIONS

## Machine Tool Safety & Operations

(Course 101/32 clock hours)

- A. Operations safety, awareness
- B. Machine collisions zones
- C. Operation precaution
- D. Preventative maintenance check list
- E. Machine tool warm-up procedures
- F. Common sense safety
- G. Machine tool capacity, speed & feed range, horsepower of spindle & servo drives
- H. Machine general information
- I. CNC capabilities
- J. Operation of sub control and main operations panels

Reference: Machine tool operator's manuals



Mazak 200MS @ Cleveland Industrial Training Center

## Blueprint Analysis

(Course 102/32 clock hours)

- A. Establish part reference plains
- B. Dimension part from reference plains
- C. Determine machining operations
- D. Determine machining sequence
- E. Interpolate blueprint tolerances

References: Blueprints, Introduction to CNC textbook



## Speeds & Feeds

(Course 103/16 clock hours)

- A. Reference recommended speeds charts
- B. Reference recommended feeds charts
- C. Use RPM & SFM formulas
- D. Use production calculator

Reference: Machinery's Handbook, Machining Data Handbook, production calculator, Introduction to CNC textbook



Students @ Akron CNC Training Center (Learning Center)

## Shop Mathematics

(Course 104/52 clock hours)

- A. Fractions
- B. Decimals
- C. Basic algebra
- D. Geometry
- E. Basic trigonometry
- F. Cartesian coordinate system
- G. Use of scientific calculator

References: Mathematics for Machine Technology, scientific calculator

Process Sheet & Program Manuscript  
(Course 105/44 clock hours)

- A. Tooling layout
- B. Part program home position
- C. Sketch
- D. Comments
- E. Preparatory function (G codes)
- F. Miscellaneous (M codes)
- G. Other codes

References: General numeric operation manuals, process sheet, sample program, code sheet, Introduction to CNC textbook

Machine Operations, Editing & Tooling  
(Course 106/72 clock hours)

- A. MDI/editing
- B. Tool qualification
- C. Program debug
- D. Tool offset
- E. Tooling
- F. Work holding devices

References: Machine tool operations manuals, general numeric operations manual

## Quality Control

(Course 107/16 clock hours)

- A. Quality control procedures
- B. Quality control equipment
- C. Quality control terminology

Reference: Starrett Tools & Rules

## CAD/CAM Analysis

(Course 108/8 clock hours)

- A. Introduction to CAD (Computer Aided Design)
- B. Introduction to CAM (Computer Aided Manufacturing)
- C. Generate CAD drawing using main menu
- D. Generate CAM program using NC CAM menu
- E. Solving shop mathematics by CAD/CAM

Reference: BOBCAD/CAM





## PROGRAM OUTLINE AND COURSE

### DESCRIPTIONS

CNC Swiss Machine Operations: \* 80 clock hours

5 weeks

The purpose of the CNC Swiss Machine Operations program is to address the growing need for competent operators for this technology. More and more machining companies are transitioning to these machines as they realize the long-term benefit over conventional CNC processes. This program is not for beginners in the machining field. CITC will only accept individuals who can demonstrate competency and/or experience in the areas of blueprint reading, gauging, basic shop math and general machining concepts. Recent graduates (3 years) of CITC or the Akron CNC Training Center's 272-hour CNC Programming and Operations program are automatically eligible for acceptance. The program provides both classroom instruction and hands-on experience throughout. During the final two weeks of the program students will have the opportunity to apply what they learned by doing actual hands-on set-ups on a Citizen CNC Swiss machine and barfeed system.

Graduates of the CNC Swiss Turning Operations Program will qualify for entry to mid-level positions as operators, depending on previous background.

Course No.	Course Title	Lecture Hours	Lab Hours
S101	Introduction to CNC Swiss Machines	4	0
S102	Bar feeder Orientation	4	12
S103	Main Spindle Area & Guide Bushing	8	16
S104	Sub Spindle Area and Back-working tools	8	16
S105	Controller Orientation/ Basic Programming	6	6
	<b>TOTALS</b>	<b>30</b>	<b>50</b>

\* Only offered at Cleveland Location

# COURSE DESCRIPTIONS

## Introduction to CNC Swiss Machines

(Course S101/4 clock hours)

- A. Similarities and differences between conventional and Swiss turning processes.
- B. Machine safety, basic maintenance practices and checklist.

## Barfeeder Orientation

(Course S102/16 hours)

- A. Bar feeder safety, basic maintenance practices and checklist.
- B. Controller menu overview and demonstration.
- C. Discussion, demonstration and hands-on, channels and machine lifting fingers.

## Main Collet

(Course S103/24 hours)

- A. Discussion, demonstration and hands-on, guide bushing, drover nut and live tool options.
- B. Gang slide tools and machine processes used on the main collet.

## Pickoff Collet and Back-working Tools

(Course S104/24 hours)

- A. Discussion, demonstration and hands-on ejector pins, bore tools.
- B. Using the tools and machine processes on the pickoff collet.

## Controller Orientation and Basic Programming

(Course S105/12 hours)

- A. Discussion/demonstration of basic Swiss-specific G codes.
- B. Preparation page, MC data, offset, edit.

## SCHEDULE OF FEES

Course: ***CNC Programming & Operation/Machine Tools***

Clock hours: 272 (17 weeks)

Registration fee	\$ 125.00
Course tuition	\$ 5275.00
Books/supplies	<u>Included</u>
Total:	\$ 5,400.00

Course: ***CNC Swiss Machine Operations***

Clock hours: 80 (5 weeks)

Registration fee	\$ 125.00
Course tuition	\$ 1,670.00
Books/supplies	<u>Included</u>
Total:	\$ 1,795.00

### **Department of Veterans, Chapter 31 & 33:**

CITC will not impose any penalty, including the assessment of late fees, denial of access to classes, libraries, or other institutional facilities or requirement that a covered individual borrow additional funds, on any covered individual because of the individual's inability to meet his or her financial obligations to the institution due to the delayed disbursement funding from Department of Veterans Affairs under Chapter 31 or 33.

### **Restart:**

Restart charges may apply for a student who dropped or was dismissed from a previous class and enrolls in a new class. Charges may be pro-rated on an individual basis. Credit may be given for training completed in the prior class.



**NOTE:** There will be a \$35 charge for any check returned NSF.

# ADMINISTRATION, FACULTY, STAFF

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## CLEVELAND INDUSTRIAL TRAINING CENTER

<b>NAME</b>	<b>TITLE</b>	<b>EDUCATION</b>
<b>Donald Borman</b>	School owner	Ohio State University -BS Industrial Engineering
<b>Marybeth Borman</b>	Advisor	Bowling Green State University -BS Education
<b>Kurt Carlson</b>	Asst. Director/Instructor	Lakeland Community College -Industrial Engineering Marine Corp Institute -Certificate Math Course of Study
<b>Tim Duffy</b>	Director (CITC)	Cleveland State University -BA Communications
<b>Richard Ernst</b>	Instructor	Cleveland Industrial Training Center -CNC certificate
<b>Terri Hartsook</b>	Admissions & Graduate Services	Business & Accounting Seminars 25+ years job experience
<b>Charles Takacs</b>	Instructor	Cleveland Industrial Training Center -CNC certificate

**AKRON CNC TRAINING CENTER (LEARNING CENTER)**

<b>NAME</b>	<b>TITLE</b>	<b>EDUCATION</b>
<b>Robert Fallaro</b>	Assistant Instructor	Baldwin Wallace College -BA, Business Polaris Career Center -Journeyman pattern maker certificate Lakeland Community College -AutoCAD certificate Cuyahoga Community College -MasterCAM certificate
<b>Laurie Norval</b>	Director (Akron)	University of Akron -BA, Communications
<b>Mike Scarpitti</b>	Instructor	Akron NTMA Training Center -Journeyman Machinist
<b>Madison Prestridge</b>	Administrative Assistant	Web programming & design certificate