Employment

CNC INDUSTRY EMPLOYMENT GUIDE

JOB TITLE	DUTIES	SKILLS/EDUCATION	
MACHINE OPERATOR	Load and unload work pieces, monitor machining in process, inspect finished parts, Statistical Process Control charting.	SKILLS	Regular check-up of operation, general knowledge of machining
		EDUCATION	Training at a vocational/technical school, or community college
MACHINE SET-UP	Set up fixture and cutting tools, coordinate the machine, determine and enter offset and compensation values, correct errors in tooling and programming, test the program.	SKILLS	Solid knowledge of machining and tooling, understanding of part programing, CAM and machine functions
		EDUCATION	Training at a vocational/technical school, or community college. Machining experience with extensive CNC knowledge
TOOL MAKER	Assemble and preset standard tooling, make special purpose tooling, repair damaged tooling.	SKILLS	High machining skills, knowledge of CNC, and blueprint reading
		EDUCATION	Specialized vocational training or an apprenticeship program
PART PROGRAMMER	Prepare part programs, CNC documents, and setup instructions.	SKILLS	Command of geometry/trigonometry, sound knowledge of machining, blueprints, use of CAD/CAM software, hands on experience
		EDUCATION	Training at vocational school or college, CNC and computer software
PROCESS PLANNER	Determine what machining processes/ sequences to use and with what machines; select cutting tools and work holders/fixtures; prepare operation sheets.	SKILLS	Overall knowledge of machining, and tooling; strong background in manufacturing and CNC
		EDUCATION	College degree in Manufacturing is preferred
CNC MANAGER or SUPERVISOR	Oversee CNC operations, personnel hiring/training and job assignment, coordination with other departments, evaluation and acquisition of new CNC machine tools and CAD/CAM software.	SKILLS	Management skills, machining knowledge, CNC programming, and manufacturing experience
		EDUCATION	College or advanced degree

Education that WORKS!

BIR is a private, postsecondary school for technical, business, and language learning. BIR has been educating students since 1993 and enjoys the reputation of a friendly institution serving the needs of Chicagoland students.

Low tuition and no-interest payment plans.

Federal and state financial aid and institutional scholarships are available for qualified students.

BIR is authorized under Federal law to enroll non-immigrant students.

Call BIR and speak with a counselor about your future **773-866-0111** or email: **contact@birtraining.edu**

Three Chicago Campuses* and Computerized Manufacturing Lab

Main 3601 W. Devon Ave., Chicago, IL 60659

828 S. Wabash Ave., Chicago, IL 60605

6240 W. Belmont Ave., Chicago, IL 60634

5338 N. Northwest Highway, Chicago, IL 60630 (Computerized Manufacturing Lab)

*Not all programs available at all campuses

BIR Training Center

Education that works!

773-866-0111 | www.birtraining.edu

BIR is **NCA ACCREDITED** and **ISBE APPROVED**

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BIR Training Center

Education that works!

COMPUTERIZED MANUFACTURING

Some of these photos depict actual BIR students and graduates.

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Computerized Manufacturing

What is Computerized Manufacturing?

Computer controlled machines create the vast majority of consumer products, from cars and iPods, to toothbrushes and televisions. Computerized Manufacturing is also known as CNC, Computer Numerical Control. Examples of machines utilizing CNC include milling and turning centers, Coordinate Measuring Machines (CMM), Electrical Discharge Machines (EDMs), laser machines, and others.

BIR: A Leader in CNC Training

BIR Training Center is the Midwest's leader in Computerized Manufacturing training since 1993, with three campuses across Chicago, offering instruction in CNC machining, parts programming, CMM precision inspection and measurement, and CAM/CAD technology; including MasterCAM, GeoPath, and MazaCAM platforms.

With flexible scheduling, CAD/CAM software equipped labs, a squeaky-clean machine shop with CNC HAAS turning and Mazak milling centers, Shop Floor CMM from Brown & Sharpe, and instructors who come from the field — the opportunities to learn CNC & CAD/CAM are closer than you think. Employers turn to BIR Training Center when they need to train their workforce in practical and useful blueprint, quality control, CNC machining, parts programming, and CAD/CAM skills.

BIR is an authorized training provider for GeoPath and MazaCAM software, a CAD/CAM system found in thousands of shops.

MazaCAM® GeoPath® PowerCAM®

BIR has 3 programs in computerized manufacturing:

- (M1) Comprehensive CNC– includes training in a wide variety of CNC machines, CMM, and CAM packages
- (M2) Machine Tool Technology – is a well balanced program with advanced skills including CAD/CAM
- (M3) Machine Tool Operations – has a machine specific focus

Careers in Computerized Manufacturing

The demand for programmers and operators of Computer Numerical Controlled (CNC) machines is strong today and is expected to grow. BIR's programs prepare students for employment as CNC and CMM Operators, Set-up Personnel, and CAM Specialists. Computerized manufacturing provides attractive career opportunities for both women and men.

Certificate Programs in Computerized Manufacturing

M1: Comprehensive CNC 34 Credits

Full-time: 16 Months, Part-time: 27 Months

TERM 1	COM 100 Blueprints and Quality Control (2 Credits)	ABM 100 Math Computation Review (2 Credits)	15 Weeks
TERM 2	CIT 090 Computer Productivity Tools & Keyboarding (3 Credits)	COM 090 Shop Mathematics (2 Credits)	
TERM 3	COM 101 Mastercam I: Design & Drafting (3 Credits)	COM 103 CNC Mill G-codes Setup & Operations (2 Credits)	15 Weeks
TERM 4	COM 102 CNC Lathe G-codes Setup & Operations (2 Credits)	COM 203 CNC Mill G-codes Part Programming (2 Credits)	
TERM 5	COM 202 CNC Lathe G-codes Part Programming (2 Credits)	COM 303 Mastercam II: CNC Programming (3 Credits)	15 Weeks
TERM 6	COM 104 Coordinate Measuring Machine (CMM) (2 Credits)	COM 105 CNC Conversational Control Operations (2 Credits)	
TERM 7	COM 204 Advanced CMM Skills (2 Credits)	COM 205 MazaCAM Part Programming (2 Credits)	15 Weeks
TERM 8	COM 310 Computerized Manufacturing Career Development (3 Credits)		

Sample Schedule of a Full-time Student. Individual paths and completion times may vary.

M2: Machine Tool Technology 26 Credits

Full-time: 12 Months, Part-time: 21 months

TERM 1	COM 100 Blueprints and Quality Control (2 Credits)	ABM 100 Math Computation Review (2 Credits)	15 Weeks
TERM 2	CIT 090 Computer Productivity Tools & Keyboarding (3 Credits)	COM 090 Shop Mathematics (2 Credits)	
TERM 3	COM 101 Mastercam 1: Design & Drafting (3 Credits)	COM 103 CNC Mill G-codes Setup & Operations (2 Credits)	15 Weeks
TERM 4	COM 102 CNC Lathe G-codes Setup & Operations (2 Credits)	COM 203 CNC Mill G-codes Part Programming (2 Credits)	
TERM 5	COM 202 CNC Lathe G-codes Part Programming (2 Credits)	COM 303 Mastercam II: CNC Programming (3 Credits)	15 Weeks
TERM 6	COM 310 Computerized Manufacturing Career Development (3 Credits)		

Sample Schedule of a Full-time Student. Individual paths and completion times may vary.

Call BIR today 773.866.0111
Visit our website www.birtraining.edu
Walk into one of our three Chicago Campuses.

M3: Machine Tool Operations 14 Credits

Full-time: 9 Months, Part-time: 12 months

TERM 1	COM 100 Blueprints and Quality Control (2 Credits)	COM 090 Shop Mathematics (2 Credits)	15 Weeks
TERM 2	CIT 090 Computer Productivity Tools & Keyboading (3 Credits)	COM 102 CNC Lathe G-codes Setup & Operations (2 Credits)	
TERM 3	COM 202 CNC Lathe G-codes Part Programming (2 Credits)		15 Weeks
TERM 4	COM 310 Computerized Manufacturing Career Development (3 Credits)		

Program Info

Hands-on Training
Machine shop sessions are conducted using real CNC machines in BIR's Computerized Manufacturing Lab.

Available Schedule
Full-time 4-5 sessions a week, Part time 2-3 sessions a week.

Average Class Size
Classroom Training: 14 students
Machine Shop: 9 Students

Support
Additional help with math, English as a second language, and computer skills is available.

Financial Assistance
BIR provides low tuition and no-interest payment plans. Federal and state financial aid and G.I. Bill benefits are available to qualified students.