Program Information

The Computer Numeric Controlled (CNC) Service Technician program is a 64-credit diploma that includes technical and general education components. This diploma provides the skills for working in the manufacturing sector or as a field service technician. Full-time students can obtain a diploma in two years. Financial assistance is available for those who qualify.

CNC Service Technicians play a vital role in maintaining and servicing industrial equipment. Technicians inspect, calibrate, maintain, and repair equipment.

Designed by manufacturing industry leaders, the program provides a comprehensive, hands-on, career-oriented curriculum. Students will obtain a solid education in machine repair, industry fundamentals, and electronic fundamentals.

Program Learning Outcomes

- Demonstrate and practice maintenance skills consistent with industry expectations.
- Exhibit safety principles and practices in a manufacturing environment.
- Develop critical and creative thinking processes required to effectively and efficiently diagnose and repair technical problems.
- Develop and demonstrate knowledge, skills, and attitudes essential to an individual company's expectations.
- Demonstrate efficient interpersonal skills with customers, machine operators, and co-workers.

Industry and Career Outlook

Positions in this field may be either on-site or field service personnel involving highly technical repair and maintenance of Computer Numeric Controlled (CNC) machine and robotic automation equipment. Automation in manufacturing perpetuates an increased need for highly skilled technicians. Equipment serviced is encompassed by many sectors of manufacturing and may require background checks and proof of citizenship for entry into facilities including International Traffic in Arms Regulations (ITAR) as well as non-disclosure agreements and intellectual property protections. Field service may also involve varying amounts of travel to and from client sites.

Wage information is available from the <u>Minnesota Department of</u> <u>Employment and Economic Development</u>

Program Start Dates

Fall Semester.....August Spring Semester....January** ** Students who start in the spring will need longer to complete due to course prerequisites.

Course Prerequisites

Some courses in this program may require a prerequisite. Please see <u>course descriptions</u> for more details.

Program Sequence

| Fall Semester | |
|--------------------|--|
| □ ETEC 1102 | Mechatronic 1 DC |
| □ ETEC 1113 | Mechatronic 2 AC |
| □ ETEC 1141 | Circuit Analysis4 |
| □ ETEC 1250 | Digital I |
| □ MAIN 1100 | Pneumatic & Hydraulics4 |
| Spring Semester | |
| □ ETEC 1170 | Programmable Logic Controllers (PLCs) |
| □ ETEC 1202 | Solid State Electronic Devices |
| □ MACH 1105 | Basic Machining |
| □ MACH 1221 | Grinding |
| □ MACH 1261 | CNC Programming 1 |
| Fall Semester | |
| □ MACH 1251 | CNC Machining |
| □ MAIN 2310 | Peripheral Machine Systems |
| □ MAIN 2320 | Electric Motors and Sensors |
| □ MAIN 2330 | Power Transmission |
| □ MAIN 2340 | Controls |
| Spring Semester 17 | |
| □ ENGL 2105 | Business and Technical Writing (Goal 1&2)4 |
| □ MAIN 2400 | Service/Machine Troubleshooting |
| □ MAIN 2410 | Preventative Maintenance2 |
| □ MAIN 2420 | Electrical Troubleshooting |
| □ MAIN 2430 | Accuracies |

Graduation Requirements

Students must earn a cumulative 2.0 GPA or higher to be eligible for graduation from this program.

Faculty Contact

