MAKE THE TOOLS THAT KEEP AMERICA RUNNING

[MANUFACTURING]

# Machining & Manufacturing Technology

# 

A career as a machine tool technician is for students who enjoy using their hands to make something work. Our graduates apply their knowledge and skill to plan, manufacture, assemble, test and repair parts as well as mechanisms and machines. If you are a good problem-solver and like a challenge, this career is for you.

#### **LEARNING AT WASHBURN TECH**

In this program, you will learn to read technical information on blueprints along with sketching, angles, tapers, gearing and precision measuring. Instruction also includes hands-on training in the operation of machine tools, such as the engine lathe, milling machine, surface grinder, drill press, computerized numerical control milling machine and computerized numerical control lathe. Attending full-day, you can complete the program in two semesters, while high school and half-day students can finish in four semesters. Students have the option of completing 48-credit-hour Cert C or a 23-credit-hour Cert A. Cert C completers may be eligible to complete an associate or more advanced degrees at Washburn University.

#### **JOB AND SALARY OUTLOOK**

Labor experts predict jobs will open in this field as baby boomers retire. Job candidates who can operate multiple machines have the

# **CAREERS AS A MACHINIST »**

- + auto machinist + jig bore tool maker
- 🕇 die maker
- factory maintenance
- + CNC machinist + manual lathe machinist
- + gear machinist + metal die finisher

best opportunities for employment and advancement. The average entry-level salary for a machinist is \$18.36 an hour or \$38,182 annually, according to the Kansas Department of Labor. The average is \$23.84 an hour or \$49,587 annually.

#### **ENTRY REQUIREMENTS**

For dual-credit high school students submission of an application, official partial transcript, and consent to enroll form are required. Adult students must complete an application and submit an official copy of all transcripts. Please see an admissions counselor for details.

#### **CERTIFICATIONS**

+ NC3 Starrett Certified





Build your best self.

TALK TO AN ADMISSIONS COUNSELOR TODAY!

785.670.2200

WASHBURN UNIVERSITY INSTITUTE OF TECHNOLOGY | 5724 SW HUNTOON STREET | TOPEKA, KANSAS 66604 | WASHBURNTECH.EDU

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# Machining & Manufacturing Technology



# **COURSE DESCRIPTIONS**

**SAFETY/OSHA-10\*** Focuses on job/site safety and precautions

**PRINT READING\*** Identification of basics used in blueprints

MACHINING I\* Conduct job hazard analysis for conventional mills/lathes

MACHINING TOOL PROCESSES\* Analyze blueprints to layout parts and materials

LATHE/MILL/GRIND\* Analyze blueprints to layout parts and materials

MACHINING II\* Perform basic trigonometric functions

**QUALITY CONTROL & INSPECTION\*** Explore the science of dimensional metrology

WORKPLACE ETHICS\* Study human relations in today's workplace

**METALLURGY\*** Covers metallurgical terms and definitions

**BENCH WORK\*** Learn and practice bench work skills

CNC OPERATIONS\* Covers the history of Computer Numerical Control (CNC)

LATHE/MILL/GRIND II Set up and operate lathes, milling machines & grinders

#### CAD/CAM 1

Introductory course to Computer-aided Drafting and Computer-aided Manufacturing.

#### **CNC MILLING 1**

Practical experience in setting up and performing basic operations on CNC Milling machines

#### **MACHINGING III/IV**

Expand on earlier course

## MACHINE TOOL SPECIAL PROJECTS OR MACHINE TOOL INTERNSHIP

Apply machining principles in projects or internships

#### **PRINT READING II**

Expand on earlier course

#### **TECHNICAL MATH I**

Basic math, measurements and signed numbers

\*indicates Cert A courses only

# **APPLICATION CHECKLIST**



## 2025-2026 PROGRAM COSTS - CERT A (Estimated)

	HIGH SCHOOL	ADULT
Tuition	*\$330	\$3,795
All other fees	\$154	\$921
TOTAL	\$467	\$4,716

\*Tiered courses are paid by Excel in CTE. Non-tiered courses are paid by the student.

## **ADDITIONAL CHARGES** (Estimated)

	HIGH SCHOOL	ADULT
Tools/Books	\$169	\$169

#### 2025-2026 PROGRAM COSTS - CERT C (Estimated)

	HIGH SCHOOL	ADULT
Tuition	*\$825	\$7,755
All other fees	\$235	\$1,569
TOTAL	\$1,060	\$9,324

\*Tiered courses are paid by Excel in CTE. Non-tiered courses are paid by the student.

# ADDITIONAL CHARGES (Estimated)

	HIGH SCHOOL	ADULT
Tools/Books	\$169	\$169

The Washburn Tech Machining & Manufacturing Technology program is in alignment with the National Center for Education Statistics (NCES) CIP Code 48.0501: Machine Tool Technology/Machinist. A program that prepares individuals to apply technical knowledge and skills to plan, manufacture, assemble, test, and repair parts, mechanisms, machines, and structures in which materials are cast, formed, shaped, molded, heat treated, cut, twisted, pressed, fused, stamped or worked.

#### **MORE INFO »**

For more programs, enrollment and course schedule information, please contact Admissions. Financial Aid is available to those who qualify.

CALL **785.670.2200** TO TALK W/ ADMISSIONS COUNSELOR

Washburn University prohibits discrimination on the basis of race, color, sex, religion, age, national origin, ancestry, disability, marital or parental status, sexual orientation/gender identity, genetic information or other non-merit reasons in University programs and activities, admissions, educational program, or activities and employment, as required by applicable laws and regulations. The following person has been designated to handle inquiries regarding non-discrimination policies: Equal Opportunity Director, Washburn University, 1700 S.W. College Ave., Topeka, KS 66621, 785.670.1509, eodirector@washburn.edu.