

**Program Number 50-432-1
5-Year Contract**

**Work Hours (including related instruction): 9000
Related Instruction Hours: 512 • Night School Hours: 250**

ABOUT APPRENTICESHIP

Apprenticeships are employer-sponsored training programs. You must have a contract before being invited to school. A special application process is used for these programs. Please contact the Apprenticeship Office for the proper forms. Apprenticeship means you earn while you learn. If you want a career in a skilled trade, apprenticeship is the best way to get there. You'll combine on-the-job training with on-campus learning—you'll have the best of both worlds when it comes to learning the skills you need to get ahead. And even better, you'll earn a paycheck while you learn those skills.

ABOUT THE CAREER

Sheet metal workers plan and lay out work from blueprints and sketches, fabricate parts using hand and power equipment, assemble HVAC (Heating, Ventilation, and Air Conditioning) and architectural units, and install the assembled units in the final structure. The Sheet Metal Apprenticeship program is an employer-sponsored, hands-on training program. If you like to work on projects from start to finish, using a variety of skills, check out a career as a journey-level sheet metal worker.

CAREERS

Graduates of LTC's Sheet Metal Apprenticeship program work as journey-level sheet metal workers in a variety of workplace settings.

CONSTRUCTION APPRENTICE APPLICATION REQUIREMENTS

- Apprentice Application
- Proof of Age
- Accuplacer Entrance Assessment or ACT test
- High School Transcripts or Equivalent
- Advisory Committee Interview

PROGRAM OUTCOMES

- Work safely in a variety of work situations.
- Demonstrate proficiency in welding.
- Install sheet metal components according to industry standards.
- Lay out sheet metal components according to specifications.
- Fabricate sheet metal components using a variety of metal fabricating machinery.
- Interpret trade-related documents.
- Demonstrate proficiency using acetylene and hand plasma cutting.

APPROXIMATE COSTS

Contact the LTC Apprenticeship Office or visit www.gotoltc.edu/apprenticeship for detailed information.

MINIMUM PLACEMENT SCORES

Accuplacer: Arithmetic-250, Reading-239, QAS-216
ACT: Mathematics-16, Reading-16

SPECIAL NOTE

Upon completion of the apprentice requirements, you'll be issued a Letter of Introduction, which states your requirements have been met. You'll use this Letter of Introduction to apply for work in the trade. You must have a sponsoring employer before receiving a contract and being invited to school.

CAREER & EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

Catalog No.	Class Title	Credit(s)
Term 1		
50432501	Sheet Metal Apprentice 1	2 2
Term 2		
50432502	Sheet Metal Apprentice 2	2 2
Term 3		
50432503	Sheet Metal Apprentice 3	2 2
Term 4		
50432504	Sheet Metal Apprentice 4	2 2
Term 5		
50432505	Sheet Metal Apprentice 5	2 2
Term 6		
50432506	Sheet Metal Apprentice 6	2 2
Term 7		
50432507	Sheet Metal Apprentice 7	2 2
Term 8		
50432508	Sheet Metal Apprentice 8	2 2
		TOTAL 16

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with the Apprenticeship Office for details. The tuition and fees are approximate based on 2019-2020 rates and are subject to change prior to the start of the academic year.



SHEET METAL APPRENTICE 1...introduces the apprentice to the sheet metal industry; learn craftsmanship; use drafting equipment and materials, The apprentice will learn trade overview and history; learn hand tools and their proper use; begin learning fundamentals of fabrication on metal; learn drafting tools and materials; learn lines and lettering; develop orthographic projections; begin layout techniques; learn layout tools and terms and principles; and begin fabricating fittings with metal. CONDITION: 504321/504322 Sheet Metal Apprentice requirements met..

SHEET METAL APPRENTICE 2...introduces the apprentice to parallel line, radial line, and triangulation pattern development. The apprentice will learn the following layout principles: Ogee offsets, parallel line layout, radial line layout, triangulation layout, and soldering. CONDITION: 504321/504322 Sheet Metal Apprentice requirements met.

SHEET METAL APPRENTICE 3...introduces the apprentice to the basics of organizing time; introduction to computers; the use of scientific calculators for trigonometry and everyday equations. The apprentice will revisit orthographic drawing development; learn pattern development and fabrication of the following - round tee's, round elbows, round tapers, roof jacks, square to rounds, and transitions. CONDITION: 504321/504322 Sheet Metal Apprentice requirements met.

SHEET METAL APPRENTICE 4...introduces the apprentice to the basics of Architectural Sheet Metal, describes the primary functions and forms of architectural sheet metal, including shelter, durability, and appearance. It also identifies the larger concepts of architectural sheet metal, including moisture control, expansion and contraction, roof and wall systems, shop layout and fabrication including soldering of architectural components, installation, safety, and project management. It also describes the contributions of architectural sheet metal to architecture, art, and design. CONDITION: 504321/504322 Sheet Metal Apprentice requirements met.

SHEET METAL APPRENTICE 5...provides the apprentice with skills to understand the concepts of HVAC systems. The apprentice will learn how to understand the different systems and components, heat transfer theories, refrigeration theories, electrical theories, automatic controls, and field installation roles and responsibilities. CONDITION: 504321/504322 Sheet Metal Apprentice requirements met.

SHEET METAL APPRENTICE 6...provides the apprentice with skills to understand the concepts of HVAC systems and reading plans and specs. Apprentices will interpret load calculations and sizing ductwork; understand test and balance (TAB) procedures, understand commissioning duties, become an effective project manager, interpret plans and specs, and create CAD drawings. CONDITION: 504321/504322 Sheet Metal Apprentice requirements met.

SHEET METAL APPRENTICE 7...introduces the apprentice to Industrial Sheet Metal skills. The apprentice will be able to identify types of materials used in industrial sheet metal work, understand the weldability of each of the types of materials used in industrial work, identify the primary steps of stock metal used in industrial sheet metal applications--plates, angles, bars, beams and channels, calculate the weight of stock metal components represented in a drawing, calculate the cost of stock metal components represented in a drawing, identify the welding and drawing symbols used in industrial sheet metal, understand where pipe welding is used, understand how to safely operate power equipment that is used for industrial work, and know the appropriate PPE to use for any given situation and how to use the equipment correctly. CONDITION: 504321/504322 Sheet Metal Apprentice requirements met

SHEET METAL APPRENTICE 8...teaches the apprentice to become familiar with layout principles for sheet metal items commonly found in industrial environments. The apprentice will understand the difference between plan view and elevation view, understand how to lay out a project using a combination of two of the three methods of an industrial project, be familiar with the technical aspects related to cutting heavy metals, be familiar with common shop workflow procedures, be familiar with the types of job sites where industrial work might be performed, identify and describe the six steps used for field installation, be familiar with the challenges of scheduling an industrial job, understand the importance of communicating and cooperating with other trades, understand the overall purpose and function of an industrial ventilation/exhaust system, understand the principles of airflow and how it impacts industrial ventilation/exhaust system design, be familiar with basic rigging principles, and be familiar with handsignals used during hoisting operations. CONDITION: 504321/504322 Sheet Metal Apprentice requirements met