

ATSM-1020: TRADE HISTORY

Cuyahoga Community College

Viewing: ATSM-1020 : Trade History

Board of Trustees:

March 2020

Academic Term:

Fall 2020

Subject Code

ATSM - Applied Ind Tech- Sheetmetal

Course Number:

1020

Title:

Trade History

Catalog Description:

An introductory course covering the sheet metal industry and its history. Included is a discussion of the roles and responsibilities of the sheet metal worker.

Credit Hour(s):

1

Lecture Hour(s):

1

Requisites

Prerequisite and Corequisite

Departmental approval: admission to Sheet Metal Worker's apprenticeship program.

Outcomes

Course Outcome(s):

Explain the sheet metal industry and provide an overview of the trade describing the demographics, specialties and the future of the industry.

Objective(s):

1. Identify the respective age groups of the membership including apprentices and journeymen. Also include the national statistics with respect to race.
2. Distinguish between the respective trade areas within the sheet metal industry including heating ventilating and air conditioning (HVAC). Architectural structures using metal and specialty applications.
3. List the special categories of the trade including balancing and testing, welding and computer aided drafting (CAD).
4. Discuss the future of the trade with respect to green building and energy conservation and energy efficient construction.
5. List the type of industries that require clean rooms for sheet metal work.

Course Outcome(s):

Discuss the history of the sheet metal industry, types and uses of metal, and the development of the apprenticeship program.

Objective(s):

1. Establish the timeline of metal work throughout history.
2. Describe how metal has been used for armor, weapons, tools and utensils.
3. Discuss the history of apprenticeship from its origin and the status it held in the European guild system to modern times.

Course Outcome(s):

Define the roles and responsibilities of the sheet metal worker, obligations to the organization and job opportunities.

Objective(s):

1. Identify responsibilities of the worker in the field and discuss industry performance standards.
 2. Explain the organizational hierarchy and its democratic administration.
 3. List the different job classifications of the sheet metal industry.
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Methods of Evaluation:

1. Tests
2. Quizzes
3. Class participation

Course Content Outline:

1. Industry overview
 - a. Demographics
 - i. Age
 - ii. Ethnicity
 - iii. Gender
 - b. Trade area
 - i. HVAC
 - ii. Architectural
 - iii. Specialties
 1. Commercial
 2. Industrial
 3. Institutional
 - iv. Welding
 - c. Industry types/cleanrooms
 - i. Pharmaceutical
 - ii. Computer science
 - iii. Space technology
 - iv. Biotech
2. Special categories
 - a. Balancing and testing
 - b. CAD
 - c. Specialty welding
 - i. Metal inert gas (MIG)
 - ii. Tungsten inert gas (TIG)
3. History
 - a. Metal time line
 - i. Classical
 - ii. Middle ages
 - iii. Early America
 - iv. 19th Century
 - v. Modern times
 - b. Uses of metal
 - i. Armor
 - ii. Tools
 - iii. Weapons
 - iv. Utensils
 - c. Apprenticeship
 - i. European guild
 - ii. Reformation period
 - iii. Colonial America
 - iv. Modern times
4. Roles and responsibilities
 - a. Obligations
 - i. Performance standards
 - ii. Payment/fees schedule
 - b. Organization hierarchy

- i. Union
- ii. Contractor associations
 1. Sheet Metal and Air Conditioning Contractors National Association
 2. Sheet Metal Workers International Association
 3. International Training Institute
- 5. Job classifications
 - a. Apprentice
 - b. Journeyperson
 - c. Foreman
 - d. General Foreman
 - e. Superintendent
 - f. Owner
 - g. Union Official

Resources

International Training Institute. *The Universal Sheet Metal Pattern Cutter*. Historical. The Sheet Metal Publication Co. NY/NY, 1926.

Anonymous (Author). *Laying Out For Boiler Makers And Sheet Metal Workers; A Practical Treatise On The Layout Of Boilers, Stacks, Tanks, Pipes, Elbows, And Miscellaneous Sheet Metal Work*. current. Publisher: Nabu Press CHARLESTON, SC, 2015.

Anson O. [from old catalog] Kittredge (Creator), Geo. W. (George Watson) b. 1 Kittredge (Creator). *The Metal Worker Pattern Book. A Practical Treatise On The Art And Science Of Pattern Cutting As Applied To Sheet Metal Work*. Nabu Press Charleston, Sc., 2015.

American Precision Industries Metal Specialities. "The Early History of Sheet Metal" American Precision Industries Metal Specialities, March 30, 2017. <https://apiams.com/blog/early-history-sheet-metal/>

Resources Other

1. www.smw.a.org/about-SMWIA/SMWIA-history.aspx (<http://www.smw.a.org/about-SMWIA/SMWIA-history.aspx>)
2. www.absoluteastronomy.com/topics/paul_revere/ (http://www.absoluteastronomy.com/topics/paul_revere/)
3. www.diamondplatesheets.org/history-of-the-tin-plate-workers-and-sheetmetalworkers/ (<http://www.diamondplatesheets.org/history-of-the-tin-plate-workers-and-sheetmetalworkers/>)
- 4.

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