

Instructional Resources

Welding Technology

CIP No. 48.0500

Please note: This list of instructional resources is provided as a tool and not an endorsement by the Arizona Department of Education. Contact information should be verified for changes/updates.

TEXTBOOKS

Contren Learning Series

<http://www.prenhall.com/crafttraining/CAT-Welding.pdf>

Welding Skills Resource Guide

http://www.go2atp.com/stores/1/product1.cfm?Product_ID=224

Modern Welding Technology

<http://vig.prenhall.com/catalog/academic/product/0,1144,0131130293,00.html>

Welding, 5E, Principles and Applications

<http://www.delmarlearning.com/>

[browse_product_detail.aspx?catid=9107&isbn=1401810462&cat1ID=WG&cat2ID=WG01](http://www.delmarlearning.com/browse_product_detail.aspx?catid=9107&isbn=1401810462&cat1ID=WG&cat2ID=WG01)

Modern Welding

<http://www.goodheartwillcox.com/products/>

[browse_subject.asp?cat=Technical%2FTrades%2FTechnology&sub=Welding&id=20](http://www.goodheartwillcox.com/browse_subject.asp?cat=Technical%2FTrades%2FTechnology&sub=Welding&id=20)

VIDEOS/DVDS

MIG/MAG Welding: The Process and Its Application in Quality Assured Manufacturing

This video describes and demonstrates the MIG/MAG welding process * It covers the basics of the process, its advantages and disadvantages, and its applications * There is much emphasis on the exploitation of the process in industry with coverage of a large number of industrial applications

Item number: NIM-37-1-VW

Running time: 22 minute Live Action Video

Price: US\$99.95

TIG Welding for Beginners

This video introduces TIG welding and electrodes, gases, and equipment * It explains the uses of DC (negative electrodes) and AC * It also demonstrates welding on stainless steel using DC * Includes tack welding

Item number: NIM-CC-14-VW

Running time: 14 minute Live Action Video

Price: US\$129.95

TIG Welding for Advanced

This video recaps AC welding theory, HF spark unit, inherent rectification, and DC suppression * It demonstrates welding run on aluminum using AC * Includes tack welding

Item number: NIM-CC-15-VW

Running time: 11 minute Live Action Video

Price: US\$129.95

VIDEOS/DVDS

Metal Arc Welding Series

Metal Arc Welding Seriesetal Arc Welding - Part I

This video deals with techniques, equipment, and precautions for arc welding * Live and animated vignettes show how equipment is set up to provide the welding circuit and how the arc is struck and maintained allowing the electrode to deposit weld metal * Also shown is the flux coating on a modern electrode

Item number: NIM-CC-10-VW

Running time: 11 minute Live Action Video

Price: US\$129.95

Metal Arc Welding - Part II

This video covers techniques for making joints in the down hand position and shows corner and flat plate joints * It also details edge preparation, work fixtures, and distortion allowances * Demonstrated are variations in current, electrode angle, and electrode manipulation for multiple pass welds

Item number: NIM-CC-11-VW

Running time: 11 minute Live Action Video

Price: US\$129.95

Metal Arc Welding - Part III

This video covers one of the most difficult processes, vertical welding runs, and demonstrates depositing beads of weld metal on a plate surface * Also shown are techniques for vertical welds to make tee file and vertical vee butt joints

Item number: NIM-CC-12-VW

Running time: 11 minute Live Action Video

Price: US\$129.95

Metal Arc Welding - Part IV

This video covers a range of welding positions such as: * Horizontal and vertical * Inclined and overhead * It also emphasizes slag control when dealing with these more difficult positions

Item number: NIM-CC-13-VW

Running time: 11 minute Live Action Video

Price: US\$129.95

Metal Arc Welding Series

Item number: NIM-CC-MAW-VW

Series includes: 4 Live Action Videos

Price: US\$449.95

VIDEOS/DVDS

MIG Welding Series

MIG Welding - Part I

This video covers transfer modes such as: * Spray * Globular * Pulse (practical examples of each) * It discusses equipment and consumables: torch, hose, wire feeder, power source

Item number: NIM-CC-2-VW

Running time: 11 minute Live Action Video

Price: US\$129.95

MIG Welding - Part II

This video covers voltage, arc length, current, and wire feed speed * It explains weld-making, preparation, power supply, and gas in detail * Also described are welding, versatility in positional welding, and spot and stitch welding *

Item number: NIM-CC-3-VW

Running time: 14 minute Live Action Video

Price: US\$129.95

MIG Welding - Part III

This program discusses the advantages MIG has in industry and covers the importance of correct current, voltage settings, and programmable units * It explains programmable wire feeders and emphasizes fitting correct contact tips and hose liners, setting up wire feeder

Item number: NIM-CC-4-VW

Running time: 18 minute Live Action Video

Price: US\$129.95

MIG Welding - Part IV

This program covers stick out, splatter, electrode wires: solid, cored, and self shielding * It also discusses on-gun fume extractors and trigger latching

Item number: NIM-CC-5-VW

Running time: 18 minute Live Action Video

Price: US\$129.95

MIG Welding Series

This series uses animation along with industrial setting bench top demonstration

Item number: NIM-CC-MIG-VW

Series includes: 4 Live Action Videos

Price: US\$449.95

VIDEOS/DVDS

Arc Welding Series

Unit 1: Electric Arc Welding

Includes: * Introduction to electric arc welding * Welding safety * Spot tacks and beads

Item number: DCA-EAW010-VW

Running time: 31 minute Live Action Video

Price: US\$85.00

Unit 2: Electric Arc Welding

Includes: * Butt weld * Lap weld * Tee weld * Edge preparation * Plug weld

Item number: DCA-EAW020-VW

Running time: 26 minute Live Action Video

Price: US\$85.00

Unit 3: Electric Arc Welding

Includes: * Corner and edge welds * Horizontal butt weld * Vertical butt weld

Item number: DCA-EAW030-VW

Running time: 28 minute Live Action Video

Price: US\$85.00

Arc Welding Series

This series consist of three informative units which contain the basics of electric arc welding * These programs will give the student the terms, definitions, and techniques valuable to all welders * Teacher's manual included

Item number: DCA-EAW000-VW

Series includes: 3 Video Transfers

Price: US\$220.0

VIDEOS/DVDS

Resistance Welding Series

Resistance Welding for Beginners

This video outlines the basic techniques for resistance spot welding * Extensive use of animation illustrates the three essential principles involving adjustment of welding current values electrode force and current flow time * This program shows the effect on spot welds when these principles are correctly and incorrectly applied

Item number: NIM-CC-8-VW

Running time: 11 minute Live Action Video

Price: US\$129.95

Resistance Welding for Advanced

This video details the variation used for different applications in industry * Configurations include indirect, series, intermittent, roll spot, stitch, projection, butt, and flash butt resistance welding

Item number: NIM-CC-9-VW

Running time: 11 minute Live Action Video

Price: US\$129.95

Resistance Welding Series

Item number: NIM-CC-RW-VW

Series includes: 2 Live Action Videos

Price: US\$229.95

VIDEOS/DVDS

Oxyacetylene Welding Series

Unit 1: Oxyacetylene Welding

Includes: * Setup and Safety Part 1 * Setup and Safety Part 2 * Spot Tacks and Beads * Explanation and Use of Fire Extinguisher

Item number: DCA-OAW010-VW

Running time: 30 minute Video Transfer

Price: US\$85.00

Unit 2: Oxyacetylene Welding

Includes: * Butt Weld With Filler Rod * Flange Edge Weld * Corner Weld

Item number: DCA-OAW020-VW

Running time: 19 minute Video Transfer

Price: US\$85.00

Unit 3: Oxyacetylene Welding

Includes: * Lap Weld * Tee Weld * Braze Welding * Use of Filler Rods * Identification of Good Welds * Filler Weld * Backhand Method of Welding

Item number: DCA-OAW030-VW

Running time: 21 minute Video Transfer

Price: US\$85.00

Unit 4: Oxyacetylene Welding

Includes: * Silver Brazing * Getting Ready for Flame Cutting * Flame Cutting * Tip Identification and Use * Cleaning of Metals

Item number: DCA-OAW040-VW

Running time: 24 minute Video Transfer

Price: US\$85.00

Oxyacetylene Welding Series

This educational series provides all necessary information on oxyacetylene welding which all welders should know * Provided for you are: * Correct terms * Tools and materials * Activities which supply the skills and knowledge critical to all students and trainees

Item number: DCA-OAW000-VW

Series includes: 4 Video Transfers

Price: US\$295.00

VIDEOS/DVDS

Oxyacetylene Welding Series

Oxyacetylene Welding for Beginners

This video discusses the correct and safe procedure for lighting the torch and adjusting the flame * It covers how to hold the torch with filler rods and shows butt welds in the flat and vertical positions along with corner and fillet welds * It also demonstrates correct and incorrect applications and correct close-down procedures

Item number: NIM-CC-6-VW

Running time: 14 minute Live Action Video

Price: US\$129.95

Oxyacetylene Welding for Advanced

This video emphasizes the importance of correct operating conditions and illustrates tacking procedures along with, vertical, horizontal, and over-head techniques * It shows both correct and incorrect procedures close up from operators point of view * It also demonstrates how each technique might be applied when welding a pipe

Item number: NIM-CC-7-VW

Running time: 11 minute Live Action Video

Price: US\$129.95

Oxyacetylene Welding Series

Item number: NIM-CC-OX-VW

Series includes: 2 Live Action Videos

Price: US\$229.95

VIDEOS/DVDS

Welding Safety

This program provides an overview of the safety procedures which should be followed when welding with the Oxyacetylene set-up * The video defines the safety aspects of gas welding and cutting and covers cylinders, gases, properties of acetylene, and precautions against explosive mixtures * Also discussed are properties of propane and its recognition by smell * The program also explains hose color, threads, safety devices, and basic equipment safety

Item number: NIM-CC-1-VW

Running time: 22 minute Live Action Video

Price: US\$279.95

ASSOCIATIONS

American Welders Association

<http://www.nccer.org/index.asp>

The Foundation offers educational programs to foster the growth, stature and professionalism of the welding industry.

National Center for Construction Education Research

<http://www.nccer.org/index.asp>

Develops and publishes standardized construction and maintenance curricula, safety programs and management. Information is available for instructor certifications.

CAREER PREPARATION

Arizona Career Resource Network (AzCRN)

Arizona's career resource network for career exploration, college information, employability skills, job opportunities, Arizona labor market information, post secondary options, career advice.

www.ade.az.gov/cte/azcrn

Career Information System

Provides information on careers, occupations, job search, self-employment, financial aid, programs of study, IDEAS Assessment, assessment link, O*NET Interest Profiler, etc.

www.azcis.intocareers.org

Keys to Work

www.keys2work.org

Lakeshore Basics and Beyond Catalog

A variety of academic information related to the world of work and job ready skill information.

www.lakeshorelearning.org

Real Games Series

A complete job readiness program. Select the level appropriate for your students. 1-888-700-8940.

www.realgame.com or www.ade.az.gov/cte/azcrn/realgamebrochure

WEBSITES

American Welding Society

<http://www.aws.org>.

Provides a variety of resources: lessons, certification program, S.E. N. S. E (Schools Excelling through National Skill Standards Education This is a high school welding program leading to certifications for entry-level welders

School Excelling through National Standards Education

www.aws.org/Education/sense.html

Contren Learning Series, NCCER (National Center for Construction Education Research)

www.nccer.org

This site will provide information on welding certification and learning materials for the classroom.

Education World

http://www.education_world.com/vocational/

Delmar Publishers

<http://www.delmarlearning.com/browse>

Books software, metal fabrications, welding principles and applications, flux cored, gas metal, oxyacetylene, shield metal arc.

Lincoln Electric Arc Welding Foundation

<http://ssl.lincolnelectric.com/foundation/>

Arc Welding Projects Volume II and III

Arc Welding Instruction for the Beginner

Fabricator's and Erector's Guide

Principles of Industrial Welding

Procedure Handbook of Arc Welding, 14th Edition

Weight of Weld Metal Tables

National Skills Standards Board

<http://www.nssb.org>

National Adult Education Professional Development Consortium

<http://www.naepdc.org/>

This provides links to possible welding related sites and information (NAEPDC)

National Welding Supply Association

www.nwsa.com

This sites provides information and links to welding supply related topics.

Office of Vocational and Adult Education (OVAE)

www.ed.gov/offices/OVAE/

This site provides a compendium of resources for technical instructors

Schools Excelling through National Skill Standards Education (SENSE)

<http://www.aws.org/Education/sense.html>