

AED – ENGINEERING TITLES IN STOCK

ELECTRICAL ENGINEERING

Electronics & Electrical Engineering, Volume 1, 20 DVD SET

R30 000.00

Item Number: HSENG001

20 full-length videos / Copyright © 2006

This 20-program educational video collection covers everything from basic electrical theory, to electronics troubleshooting, to residential electrical wiring.

Programs include:

- Electrical Principles
- Electric Circuits: Ohm's Law
- Electrical Components, Part I: Resistors, Batteries, and Switches
- Electrical Components, Part II: Capacitors, Fuses, Flashers, and Coils
- Electrical Components, Part III: Transformers, Relays, and Motors
- Electronic Components, Part I: Semiconductors, Transistors, and Diodes
- Electronic Components, Part II: Operation—Transistors and Diodes
- Electronic Components, Part III: Thyristors, Piezo Crystals, Solar Cells, and Fiber Optics
- Electrical Troubleshooting
- Electronic Troubleshooting
- The Service Entrance
- Panelboards
- Wiring Methods
- Grounding
- GFCIs and AFCIs
- Receptacles and Switches
- Wiring Light Fixtures
- Wiring for Appliances
- Math in Electrical Technology and Electrical Safety

Recommended for high school, technical or vocational school, and training programs.

Electricity and Electronics, 10 DVD SET

R15 000.00

Item Number: HSENG002

10 part DVD series / 18-24 minutes each

This ten-part series provides a comprehensive video guide to the study of electronics, ranging from the fundamental laws and principles of electricity at the atomic level to troubleshooting and repair of electronic components. Lively computer animation and hands-on demonstrations make these videos an ideal resource for the classroom.

The Series Includes:

- Electrical Principles
- Electrical Circuits: Ohm's Law
- Electrical Components Part I: Resistors, Batteries, and Switches
- Electrical Components Part II: Capacitors, Fuses, Flashers, and Coils
- Electrical Components Part III: Transformers, Relays, and Motors
- Electronic Components Part I: Semiconductors, Transistors, and Diodes
- Electronic Components Part II: Operation-Transistors and Diodes
- Electronic Components Part III: Thyristors, Piezo Crystals, Solar Cells, and Fiber Optics
- Electrical Troubleshooting
- Electronic Circuit Repair

Tools of the Trade: Inside the Electrician's Toolbox

R2 000.00

Item Number: HSENG003

DVD / 16 minutes

After a general introduction of electricity—electrons, current, kilowatts, and the journey of electrical power from utility company to home—this program examines the work materials and tools commonly used by an electrician. Wires, cables, conduits, boxes, receptacles, and switches are illustrated, and the tools required to cut and run cable or conduit, detect and test voltage, and wire or connect fixtures are shown in action. Wiring diagrams and blueprints are also considered, and safety is stressed throughout. Correlates to all National CTE Organizational Standards (including the provisions of the Perkins Act).

Recommended for high school, vocational/technical school, and adult education.

Correlates to the National Standards for Basic Electrical from the National Center for Construction Education and Research and the core standards, objectives, and indicators of SkillsUSA.

Electrical Tools ID, DVD

R2 000.00

Item Number: HSENG004

Lesson topics include:

- Pliers
- Screwdrivers
- Drills and bits
- Saws
- Conduit tools
- Test instruments
- and many more!

The featured expert displays and demonstrates the usage of a variety of pliers, screwdrivers, drills and bits, saws, conduit tools, test instruments and miscellaneous tools used in electrical work. Correct usage of the tools and following safe and approved working procedures are emphasized. A supplement is included.

Electric Generators

R2 000.00

Item Number: HSENG005

Electrostatics

R2 000.00

Item Number: HSENG006

Electronic Circuit Repair

R2 000.00

Item Number: HSENG007

Electrical Material ID I, DVD

R2 000.00

Item Number: HSENG008

Lesson topics include:

- Material identification
- Material usage
- Wiring conductors
- Conduit
- Connectors
- Fittings
- and many more!

Proper electrical material identification and usage is the focus of the presentation. More than 15 different wiring conductors are displayed and several methods of attaching wires together are demonstrated: utilizing wire nuts, solderless connectors and split bolt connectors. Also included is a discussion on the most common types of conduit and the variety of connectors and fittings used for each. A supplement is included.

Electrical Material ID II, DVD

R2 000.00

Item Number: HSENG009

Lesson topics include:

- Steel boxes
- PVC boxes
- Switches
- Receptacles
- Auxiliary items
- and many more!

Featured in the videotape are a variety of electrical boxes (steel and PVC), switches and receptacles. Their respective auxiliary items also are shown and discussed: cover plates, fuses, disconnect box, breaker panel box, meter can, weatherhead, ground rod and clamp and several types of lighting fixtures. A supplement is included.

Electrical Safety, DVD

R2 000.00

Item Number: HSENG010

Lesson topics include:

- Grounding of tools
- Grounding of equipment
- Over-current protective devices
- Insulation
- Electrical power cords
- Electrical shock factors
- and many more!

Focusing on basic electrical safety procedures, the program discusses proper grounding of tools and equipment, the purpose of over-current protective devices (fuses and circuit breakers) and the purpose and care of insulation on electric power cords. An explanation of electrical shock- factors affecting severity, protective devices, how to avoid it and how to handle electrical accidents- is included. A supplement is included.

Introduction to Semiconductors

R2 000.00

Item Number: HSENG011

Semiconductor Devices

R2 000.00

Item Number: HSENG012

DVD / 2006 / 30 minutes

Introducing semiconductor devices, this program discusses simple PN junctions, diodes, bipolar transistors, field effect transistors, MOSFETs, and triacs.

Basic Test Equipment

R2 000.00

Item Number: HSENG013

DVD / 2006 / 50 minutes

This program examines common electronics testing equipment. It covers such topics as multimeters, thermocouples, capacitance meters, and basic oscilloscopes.

Basic Electrical Troubleshooting

R2 000.00

Item Number: HSENG014

2 DVDs / 2006 / 45 minutes each

This set teaches how to determine what is happening in basic electrical systems, explains the equipment's electrical sequence of operation, shows how to read schemes, and outlines the proper uses of meters. It details the steps used to troubleshoot problems, presents a process of elimination, covers checking potential, and outlines tests of switches and loads. The set emphasizes the importance of testing with different meters on different components.

Electricity at Work: Simple Circuits

R2 000.00

Item Number: HSENG015

DVD / 1996 / 45 minutes

Simple Circuits

This program discusses common types of electrical circuit controls. It considers a variety of refrigeration circuits, examines standard circuit diagrams, and covers testing and servicing thermostats. The DVD also explores safety issues.

Electricity at Work: Light, Heat and Magnetism

R2 000.00

Item Number: HSENG016

DVD / 1996 / 45 minutes

Light, Heat and Magnetism

This program teaches how to distinguish between static and current electricity. It covers electricity generation, types of magnetism and electrical power, and key formulas.

Working Around Electricity

R2 000.00

Item Number: HSENG017

DVD / 2007 / 15 minutes

This DVD discusses important safety issues to consider when working around electricity. It covers conductors and insulators, extension cord use, proper wattage, and recognition of defects in electrical equipment.

Digital Logic Circuits

R2 000.00

Item Number: HSENG018

DVD / 2006 / 23 minutes

This program describes the logic gates used in electronics. It introduces digital logic circuits and covers such topics as adders, multiplexers, demultiplexers, and shift registers.

Basic Alternating Current

R2 000.00

Item Number: HSENG019

DVD / 2003 / 20 minutes

Featuring graphics and animations, this video discusses basic alternating current. It examines important theoretical concepts and equations and includes practical examples.

Basic Electricity and Ohm's Law

R2 000.00

Item Number: HSENG020

DVD / 2003 / 20 minutes

This program introduces basic concepts in electricity and explains Ohm's Law. It features equations and practical examples and includes illustrative graphics and animations.

Electric Meters

R2 000.00

Item Number: HSENG021

2 DVDs / 2006 / 45 minutes each

This set examines types of electric meters and shows how they are used. It identifies the parts of electrical meters, explains the operation of refrigerant controls, and explores the principles of expansion valves. The set also looks at a variety of metering devices that control refrigerant flow into the evaporator, covers their principles and design, compares refrigerant controls, and describes a variety of expansion valves.

Series and Parallel Circuits

R2 000.00

Item Number: HSENG022

DVD / 2003 / 20 minutes

This program shows how electrical theory applies to the operation of series and parallel circuits. It teaches important equations and features illustrative graphics and animations.

Electrical Drawings

R2 000.00

Item Number: HSENG023

DVD / 1993 / 12 minutes

This program covers a variety of topics surrounding electric power. It discusses electric power controls and wiring and shows how to use electrical drawings.

Basic Electronics

R2 000.00

Item Number: HSENG024

DVD / 2006 / 60 minutes

Reviewing basic troubleshooting theory, this program introduces the fundamentals of electricity. It covers such electrical components as resistors, capacitors, inductors, solenoids, relays, and switches.

AUTOMOTIVE ENGINEERING

Automotive Maintenance and Safety, 4 DVD Set

R2 000.00

Item Number: HSENG025

Combines four safety videos in various subject areas to provide a comprehensive look at this important topic.

The Series Includes:

- Auto Shop Safety
- Automotive Measurement
- Basic Car Care
- Vehicle Maintenance and Fluid Service

Automotive Computer Systems, 4 DVD Set

R6 000.00

Item Number: HSENG026

4 part DVD series / 14-30 minutes each

As any automotive technician understands, the world of car technology is now fully computerized. This series provides a basic working knowledge of automotive computer systems and the ins and outs of OBD-II diagnostics. Students will absorb lessons in computer system operation, trouble codes, scan tools, and repair procedures. Ford, GM, Chrysler, and other makes are discussed, while hybrid engine technology is also addressed. Videos can stand alone or as a series for both beginning automotive students and more advanced classes. Correlates to all National CTE Organizational Standards (including the provisions of the Perkins Act). Viewable/printable instructor's guides are available online.

The Series Includes:

- Automotive Computer System Operation
- Computer On-Board Diagnostics
- Automotive Computer System Service
- Scanning Automotive Computer Problems

Automotive Engines, 8 DVD Set

R11 500.00

Item Number: HSENG027

8 part DVD series / 16-42 minutes each

At the heart of every automobile is the engine...and this eight-part series of videos not only explains the basic operating principles, but provides clear instruction for advanced engine service. Using close-ups of actual working parts along with computer animation, the series covers every major part of a gasoline-driven engine. Hybrid technology is also explored. Each video summarizes the operation and construction of related components as well as demonstrating many important techniques for troubleshooting problems and completing professional repairs. Correlates to all National CTE Organizational Standards (including the provisions of the Perkins Act). Viewable/printable instructor's guides are available online.

The Series Includes:

- Cylinder Head Service
- Engine Bottom End Construction
- Engine Teardown, Cleaning, and Inspection
- Engine Front-End Construction
- Engine Fundamentals
- Engine Reassembly
- Engine Top-End Construction
- Short Block Service

Electrical Systems, 7 DVD Set

R10 000.00

Item Number: HSENG028

7 part DVD series / 10-17 minutes each

Updated for 2009! This seven-part series uses cutaways, animated component builds, diagrams, close-ups of parts, and footage of auto techs doing tests and making repairs to illustrate the operation and servicing of automotive electrical systems. Includes information on both late-model and older-style vehicles. Viewable/printable instructor's guides are available online. Correlates to all National CTE Organizational Standards (including the provisions of the Perkins Act).

The Series Includes:

- Charging System Operation
- Charging System Service
- Ignition System Operation
- Ignition System Service
- Starting System Operation
- Starting System Service
- Using a Load Tester

Tools of the Trade: Inside the Automotive Technician's Toolbox

R2 000.00

Item Number: HSENG029

31 minutes

Focusing on both conventional and hybrid vehicles, this program examines the systems that make them run and the tools that keep them running. After an introduction to the power train and the fuel, electrical, cooling, exhaust, steering, suspension, and brake systems, the video moves on to the auto tech's personal hand tools and shared shop tools. All manner of wrenches, pliers, screwdrivers, and hammers are discussed, along with high-tech diagnostic instruments and specialized equipment for repairing or replacing automotive system components. Education and training opportunities are touched upon, and safety practices are emphasized throughout. A viewable/printable instructor's guide is available online. Correlates to all National CTE Organizational Standards (including the provisions of the Perkins Act).

Recommended for high school, vocational/technical school, and adult education.

Correlates to the Program Certification Standards for Automobile Technician Training Programs from the National Institute for Automotive Service Excellence and the National Automotive Technicians Education Foundation; the standards from the National Education Technology Standards Project; and the IHS Global Engineering Standards (Automotive).

Hybrid Auto Repair Series, 3 DVD Set

R2 000.00

Item Number: HSENG030

3 part DVD series / 15-18 minutes each

A new generation of automotive technicians is emerging, made up of men and women with solid training in hybrid technology. Give your students a chance to be part of this technological revolution. This three-part series provides a thorough grounding in hybrid technologies, focusing on building both system knowledge and safety awareness. In addition to outlining the history and growth of electric, hydrogen, diesel, and other alternative propulsion systems, the series explores major hybrid components and details the safety challenges that these complex mechanisms present to technicians. Job-seekers who are looking to set themselves apart from the average automotive trainee will find the ideal learning resource in this series. Viewable/printable instructor's guides are available online.

The Series Includes:

- The History of Hybrids
- Common Hybrid Components
- Hybrid Safety Issues

Hybrid Auto Repair Series II, 3 DVD Set

R2 000.00

Item Number: HSENG031

3 part DVD series / 21-23 minutes each

Whether you're training students, new hires, or long-time employees, hybrid auto technology is a crucial part of today's automotive instruction. A natural follow-up to the Hybrid Auto Repair Series (item #35525), this three-part series guides viewers through the systems that hybrid auto professionals must become familiar with and shows what it takes to maintain shop safety and efficiency. Veteran automotive technicians share their hybrid knowledge and experience, explaining best practices and specific procedures relating to Ford, Honda, and Toyota models. Each program emphasizes the need for patience and caution while lowering the fear factor often associated with a hybrid's high-voltage components. A viewable/printable instructor's guide is available online. Correlates to all National CTE Organizational Standards (including the provisions of the Perkins Act).

The Series Includes:

- Battery and Safety
- Brakes and Service
- Computers and Cooling Systems

Chassis and Front End, 9 DVD Set

R12 500.00

Item Number: HSENG032

9 part DVD series / 17-27 minutes each

Make sure your students have the best possible training in chassis and front end parts and service. This nine-part series will support any intensive course covering the following systems and how they are serviced: brakes, steering, suspension, and both conventional and front-wheel drive wheel bearings. Wheel alignment theory and adjustment is also a program topic. Detailed yet easy-to-understand animation and graphics are found in each episode, accompanied by live-action video that takes students directly inside each inspection and service procedure. Correlates to all National CTE Organizational Standards (including the provisions of the Perkins Act). Viewable/printable instructor's guides are available online.

The Series Includes:

- Brake System Service
- Brake Systems
- Steering System Service
- Steering Systems
- Suspension System Service
- Suspension Systems
- Wheel Alignment
- Wheel Bearing Service: Conventional
- Wheel Bearing Service: Front Wheel Drive

Diesel Injection System Service

R2 000.00

Item Number: HSENG033

Copyright © 1993 / 26 minutes

Diesel Injection System Service is a twenty-six minute video which is part of the series, Diesel Engines.

These videos overview the design, construction, and operation of diesel engines; detail the steps needed to properly disassemble, inspect, and measure the parts of diesel engines; and summarize how to install the major parts of a diesel engine back onto its short block. Turbochargers and superchargers are also described, including troubleshooting malfunctions and repair basics. Close-up shots of components and service procedures as well as computer animation give viewers maximum learning potential.

Ignition Distributors, Distributorless Ignition Systems and Fuel Systems

R2 000.00

Item Number: HSENG034

Copyright © 2012 / 32 minutes

A car's ignition gives it the spark of life—but, as any good technician knows, figuring out how ignition and fuel systems really work isn't that simple. This video sheds light on the daunting maintenance challenges found in ignition distributors, distributorless ignition systems, and fuel systems. Viewers learn about diagnosing problems with several components—including distributors, distributor caps, distributor rotors, spark plugs, and spark plug wires—and how to build an ignition system. The next section covers the computers, triggering devices, coil packs, modules, and other elements of a distributorless ignition system, while the subsequent chapter looks at fuel pumps, fuel injectors, fuel filters, fuel pressure tests, injector testing, and more. Correlates to ASE and NATEF standards. A viewable/printable instructor's guide including an ASE/NATEF task correlation checklist is available online. A part of the Engine Performance ASE Certification Series.

ENGINEERING AND RELATED DESIGN

Basic Career Math: Drafting

R2 000.00

Item Number: HSENG035

DVD / 1995 / 15 minutes

Featuring footage of drafting professionals at work, this DVD explores drafting careers and teaches basic math skills used in drafting. It covers geometric construction; calculations of area, circumference, and perimeter; and the use of exact and varied scales. The program also offers math competency-based aids.

Measuring Tools

R2 000.00

Item Number: HSENG036

DVD / 1992 / 11 minutes

This DVD discusses linear and angle measurements. It introduces the units of linear measurement; teaches how to properly use rulers and measuring tapes; examines calipers, including slide, vernier, and micrometer calipers; shows how to use the micrometer; and explores squares.

Metric Measurement

R2 000.00

Item Number: HSENG037

DVD / 1992 / 15 minutes

Tracing the history of metric measurement, this program defines important measuring terms. It examines length, area, volume, mass, time, frequency, speed, velocity, acceleration, force, weight, work, energy, power, temperature, electrical current, light, and amount of substance and shows how to use SI units.

Linear Measurement

R2 000.00

Item Number: HSENG038

DVD / 1992 / 15 minutes

Considering common errors made when taking measurements, this program introduces units of linear measurement. It discusses tolerances, measuring devices, scales, rulers, scribes, dividers, Bevel gages, calipers, and combination squares. The DVD also teaches how to read a vernier scale, use a micrometer, and read a micrometer.

Building Drawings

R2 000.00

Item Number: HSENG039

DVD / 1993 / 12 minutes

This program teaches how to use building drawings. It covers such topics as building sites, symbols, conventions, plats, site plans, floor plans, and working drawings.

Measuring Bulk Materials

R2 000.00

Item Number: HSENG040

DVD / 1992 / 16 minutes

Defining bulk solids, this program shows how to store and handle bulk solid materials. It covers such topics as conveyers; teaches how to measure area, volume, weight, mass, and density; discusses weighing bulk materials; and introduces the principles behind lumber measurements.

Design: The Elements

R2 000.00

Item Number: HSENG041

DVD / 2005 / 19 minutes

This program discusses the nature of the design process and explores such elements of design as color, line, shape, form, pattern, and texture. It examines the application of design elements in a variety of design disciplines. "The winning combination of fast pacing and the colorful examples should catch and hold the interest of classroom viewers," Recommended, Video Librarian.

Design: Understanding the Elements

R2 000.00

Item Number: HSENG042

DVD / 2007 / 20 minutes

Featuring a professor from Parsons School of Design and offering design examples, this program examines the elements of design. It discusses line; shape, including two- and three-dimensional, geometric, and organic; visual and tactile textures; size; and such color principles as value, hue, primary complementary, analogous, triadic, additive, and subtractive.

Design: Understanding the Principles

R2 000.00

Item Number: HSENG043

DVD / 2007 / 20 minutes

Outlining the elements of design (color, size, texture, line, and shape), this DVD teaches how to combine them to achieve such design principles as unity, dominance, contrast, and rhythm. The program features professor John Roach and students from Parsons School of Design and offers design examples.

DFM: Design for Manufacturing

R2 000.00

Item Number: HSENG044

DVD / 1991 / 43 minutes

Using case studies of Storage Technology, Caterpillar, Xerox, and IBM, this program shows how design for manufacture policies reduce costs and lower part counts. It shows how using such standardized components as predesigned building blocks can expedite product development.

Drawing With Line: Contour and Negative Space

R2 000.00

Item Number: HSENG045

DVD / 2000 / 10 minutes

This program explains how the incorporation of the concepts of contour drawing and negative space in lessons can improve students' observational skills and ability to create accurate drawings and designs. The DVD also shows how negative space reinforces the descriptive contour of subjects.

Drawing: Tools and Methods

R2 000.00

Item Number: HSENG046

DVD / 2001 / 34 minutes

This program introduces basic drawing methods and techniques for such media as pencil, pastels, and charcoal. It also covers paper types and necessary drawing supplies.

Custom Motorbike Designs: Ducati, Star, Kawasaki, Suzuki and Other Custom Motorcycle Designs

R2 000.00

Item Number: HSENG047

DVD / 2007 / 22 minutes

This DVD teaches how to create custom motorbike designs that satisfy customer needs and desires. It emphasizes the importance of thinking outside of the box, considers the value of quality handcrafts and workmanship, and looks at systems integration. The program also discusses new product and process innovation and introduction methods.

Designers: Cars

R2 000.00

Item Number: HSENG048

DVD / 2004 / 15 minutes

In this program, two automotive designers develop their ideas for the exterior and interior of a car, refine their concepts through the construction of full-scale models, and see the final products built on an assembly line.

Designers: Plastic Bottle

R2 000.00

Item Number: HSENG049

DVD / 2004 / 15 minutes

This program follows two industrial designers as they devise an innovative plastic sports drink bottle and design a special sealing cap. The DVD highlights the most common methods of manufacture used in the plastic industry.

Digital Product Design: Design for Quality

R 2 000.00

Item Number: HSENG050

2 DVDs / 2008 / 155 minutes total

This set introduces the basic principles of Design for Quality (DFQ) and the dimensions of quality and includes examples of product/process quality audits. It discusses DFQ methods, tools, technologies, and international ISO standards and features case studies.

Design for Manufacture

R2 000.00

Item Number: HSENG051

DVD / 1994 / 240 minutes

This video presents practices that strengthen the product development process. It focuses on the initial stages of product design and emphasizes the importance of coordinating component manufacture and assembly.

Building Drawings

R2 000.00

Item Number: HSENG052

DVD / 1993 / 12 minutes

This DVD teaches how to use building drawings. It covers such topics as building sites, symbols, conventions, plats, site plans, floor plans, and working drawings.

Introduction to Blueprints

R2 000.00

Item Number: HSENG053

DVD / 1992 / 16 minutes

Emphasizing the importance of blueprints, this program outlines their purpose. It covers such topics as detail drawings, notes, dimensions, assembly drawings, orthographic projections, auxiliary views, sections, and pictorial drawings.

Introduction to Schematics and Symbols

R2 000.00

Item Number: HSENG054

DVD / 1992 / 16 minutes

Defining schematics, this program teaches how to use schematics and considers their value. It covers such topics as electrical, pneumatic, hydraulic, and piping schematics; flow evaluation; electrical current; and fluid flow.

CAD/CAM in Industry and Schools

R2 000.00

Item Number: HSENG055

DVD / 2006 / 30 minutes

This program examines a variety of applications for CAD/CAM technology in schools and industry. It discusses the processes of CAD/CAM, explores rapid prototyping and product development, and explains the link between classroom learning and industrial applications.

MATERIALS SCIENCE

Basic Metallurgy

R2 000.00

Item Number: HSENG056

DVD / 2003 / 40 minutes

This program teaches the fundamental concepts of metals and their weldability. It covers carbon steel, showing how to prevent martensite formation and discussing identification; looks at stainless steels, examining identification, filler metal classification, and minimization of carbide precipitation; and considers aluminum, addressing heat treatable and non-heat treatable aluminum alloys and their applications.

Heat Treatment of Carbon Steels

R2 000.00

Item Number: HSENG057

DVD / 1991 / 61 minutes

This video discusses heat treatments based on the amount of carbon present in steel. It covers austenite formation, quenching media, hardness ranges, bath and annealing temperatures, microstructures, decarburization, tempering, and residual stresses.

Physical Metallurgy: Structure and Properties

R2 000.00

Item Number: HSENG058

DVD / 1989 / 50 minutes

This video compares and contrasts the physical makeup of metals and nonmetals. It examines strength, hardness, ductility, toughness, malleability, and magnetic and electrical properties.

Mechanical Testing of Materials

R2 000.00

Item Number: HSENG059

DVD / 2001 / 25 minutes

This video introduces mechanical testing and shows how the process helps quantify such characteristics of materials as electrical conductivity and tensile strength. It explains how mechanical testing is used by engineers in materials selection, research and development, and quality control and outlines the procedures and standards of materials testing and data collection.

Polymers and Plastics

R2 000.00

Item Number: HSENG060

DVD / 2002 / 15 minutes

This program examines carbon's effectiveness as the backbone for macromolecules. It discusses the discovery of nitrocellulose and defines thermoplastics, thermosets, glass transition temperature, celluloid, Bakelite, and nylon.

Plastics in Manufacturing

R2 000.00

Item Number: HSENG061

DVD / 2003 / 21 minutes

This DVD examines items manufactured using injection molding, molds in two parts, force and cavity, and moving cores; considers rotational molding for the production of large and hollow items; and outlines process and design considerations in vacuum and pressure forming.

Polymer Production Techniques

R2 000.00

Item Number: HSENG062

DVD / 1997 / 22 minutes

This program examines types of plastics and their properties and looks at methods for processing raw materials. It covers blow molding, compression molding, extrusion, and injection molding.

Introducing Plastics Technology

R2 000.00

Item Number: HSENG063

DVD / 1991 / 19 minutes

This program examines plastics technology. It discusses thermoplastics, thermosetting materials, and processes used in converting plastics to products.

Plastics

R2 000.00

Item Number: HSENG064

DVD / 1993 / 20 minutes

This program explores the process of polymerization at the molecular level, describes the chemical composition of polystyrene and teflon, discusses thermosetting and thermoplastic polymers, and explains the vulcanization of rubber.

Corrosion and Corrosion Prevention

R2 000.00

Item Number: HSENG065

DVD / 1997 / 58 minutes

This video discusses the causes of corrosion, contributing environmental factors, corrosion types, and techniques for minimizing it.

Iron and Steel Production

R2 000.00

Item Number: HSENG066

DVD / 1999 / 14 minutes

This program looks at the manufacture of iron and steel from iron ore. It illustrates such processes and concepts as reduction, the use of carbon as a reduction agent, the destructive distillation of coal through pyrolysis, and the production of coke in the coking plant. The program also discusses charging a furnace in the manufacture of pig iron, removing impurities with the Bessemer process of steel production, scrap metal recycling in an electric furnace, and the casting process.

Composite Materials Construction

R2 000.00

Item Number: HSENG067

3 DVDs / 1993 / 30 minutes each

This set discusses the advantages and disadvantages of a variety of materials used in composite construction. It examines sandwich construction techniques and explores the uses of fiberglass, epoxy, and foam. The set also considers the Rutan Composites Method.

Composites: Properties, Processing and Uses

R2 000.00

Item Number: HSENG068

DVD / 2002 / 29 min

This program introduces the properties and uses of composite materials. It looks at raw materials, primary production, classification of composites, physical and chemical properties, methods of testing properties, secondary processing, selection of materials, and recycling.

Mechanical Properties and Their Measurement

R2 000.00

Item Number: HSENG069

DVD / 1987 / 53 minutes

This program discusses the stress-strain curve and describes tensile, hardness, and impact tests. It also teaches how to interpret test results.

Top Ten Myths in Concrete Construction

R2 000.00

Item Number: HSENG070

DVD / 2001 / 18 minutes

This DVD highlights common misconceptions in concrete construction. It considers concrete mix, curing concrete, concrete finishing, the use of calcium chloride, reinforced concrete, impermeability, and durability.

Wood

R2 000.00

Item Number: HSENG071

DVD / 1993 / 16 minutes

This program introduces lumber. It covers such topics as the properties of wood, wood grades, wood defects, measurement issues, plywood, plywood grades, choosing wood, wood frame construction, wood joints, wood preservation, industrial uses of wood, and fasteners.

Engineered Wood Products

R2 000.00

Item Number: HSENG072

DVD / 2000 / 20 minutes

This DVD examines a wide variety of engineered wood products. It explores the manufacturing processes that create plywood, laminated veneer lumber, particle board, and medium-density fiberboard; discusses considerations in design; and demonstrates uses.

Cutting Metal

R2 000.00

Item Number: HSENG073

DVD / 2002 / 19 minutes

This DVD examines methods used to cut metal during manufacture. It looks at a circular saw, a CNC drilling machine, an angle grinder, shearing devices, lathes, laser and water jet cutting, and spark erosion.

Fracture of Concrete

R2 000.00

Item Number: HSENG074

DVD / 1995 / 13 minutes

Examining research findings, this program explores the fracture of concrete. It presents basic principles of concrete fracture, considers the use and importance of closed-loop testing for the characterization of concrete mechanical properties, and discusses the application of laser holography and acoustic emission to the study of concrete fracture. The program also looks at the ways in which research affects the study of concrete and concrete fracture.

Hydration of Cement

R2 000.00

Item Number: HSENG075

DVD / 1995 / 12 minutes

This video examines the mechanics of cement hydration. It covers such topics as mathematical modeling of cement hydration, the exothermic process of hydration, conducting calorimetry in a laboratory setting, monitoring cement hydration, thermogravimetric analysis and electrical resistance measurements, changes in flow properties of cement, and the effects of ambient temperature on hydration rate.

Iron and Steel

R2 000.00

Item Number: HSENG076

DVD / 1992 / 15 minutes

This DVD examines iron and steel. It covers iron ore, pig iron, smelting, cast iron, gray cast iron, white cast iron, malleable cast iron, ductile cast iron, and high-alloy cast iron. The program also explores steel.

The Age of Iron: 2000 B.C. to 200 A.D.

R2 000.00

Item Number: HSENG077

DVD / 1984 / 30 minutes

The development of iron smelting and manufacturing dates back 3,500 years. This DVD explores the immense cultural impact of iron tools and weapons on such early civilizations as Minon Crete, the kingdoms of Asia Minor and Mesopotamia, and the empires of India and China.

Sheet Metal Drawings

R2 000.00

Item Number: HSENG078

DVD / 1981 / 16 minutes

This DVD discusses sheet metal drawings. It covers ventilation systems; ductwork; parallel, miter, and radial development; and metal for assembly.

Standard Steels

R2 000.00

Item Number: HSENG079

DVD / 1982 / 18 minutes

This DVD examines properties, testing, and uses of carbon, alloy, and stainless steels. It defines steel, describes the method by which steel is made, shows how to conduct a spark test, illustrates as-rolled and cut edges on steel sheets, and describes the differences between alloy steels and steels containing only iron and carbon. The program also explains steel coding and classification; defines plate, strip, and sheet forms of steel; and examines structural steel.

Ferrous Metals

R2 000.00

Item Number: HSENG080

DVD / 2002 / 24 minutes

This DVD considers the primary production of ferrous metals, the classification of steels and steel alloys, physical and chemical properties, production methods, the selection of materials, and recycling.

Nonferrous Metals

R2 000.00

Item Number: HSENG081

DVD / 2002 / 20 minutes

Looking at nonferrous metals, this program discusses the conversion of raw materials into useful products, physical and chemical properties, testing methods, material selection, and recycling.

Microstructures of Steels: Ferrite, Pearlite and Balnite

R2 000.00

Item Number: HSENG082

DVD 1988 / 50 minutes

This video describes the structure-property relationship in steel and examines the ways in which carbon and alloying elements are used in heat treatment. It also considers the development of iron-iron carbide diagrams.

Mechanical Testing of Materials

R2 000.00

Item Number: HSENG083

DVD / 2001 / 25 minutes

This video introduces mechanical testing and shows how the process helps quantify such characteristics of materials as electrical conductivity and tensile strength. It explains how mechanical testing is used by engineers in materials selection, research and development, and quality control and outlines the procedures and standards of materials testing and data collection.

Materials Handling

R2 000.00

Item Number: HSENG084

DVD / 1994 / 29 minutes

This DVD examines the many ways industries move and store raw materials and products. It defines important technical terms; explains how automatic identification systems work; and considers computer monitoring, robotic handling, and electronic controls.

Ductile and Brittle Fractures

R2 000.00

Item Number: HSENG085

DVD/ 1992 / 27 minutes

Comparing ductile and brittle fractures, this program examines the causes of each. It discusses cleavage, intergranular fracture, and thermally induced brittle-behavior problems. The video also considers failures resulting from improper thermal treatment and improper fabrication related to forming, machining, and joining.

Fatigue Failures

R2 000.00

Item Number: HSENG086

DVD / 1992 / 57 minutes

Discussing factors that affect fatigue life, this video examines stages of crack initiation, propagation, and fatigue fracture. It looks at the effects of different variables on fatigue, considering overstress, frequency of loading, mean stress, and residual stress. The video also explores the effects of design, microstructures, manufacturing processes, and elevated temperatures.

Construction Materials

R2 000.00

Item Number: HSENG087

DVD / 1993 / 17 minutes

This program introduces a variety of construction materials. It covers concrete, including missing concrete and concrete defects; brick; mortar; wallboard; and plasterglass. The DVD outlines masonry units, shows how to remove stains, and teaches how to patch and repair masonry.

CIVIL AND CONSTRUCTION ENGINEERING

Building Construction: Fundamentals

R2 000.00

Item Number: HSENG088

DVD / 160 minutes / 4 sections / 1 printable resource / 17 web resources

Dr. Billy Harrell explains the steps for laying a foundation and subsequent flooring for a 16' X 10' portable building with demonstrations on how to lay floor joists, square a foundation and lay flooring. Students will view procedures on how to construct the framework and interior wall partitioning for a 16' X 10' wood storage building. This includes how to layout plates, make corners and tees, construct wall units, partitions, window and door units and headers. Step-by-step instructions are provided for cutting ceiling joists and rafters with demonstrations on proper techniques for some of the more exacting procedures ("lipping" a joist, cutting a "birdsmouth," marking a ridgeboard and assembling the rafters) necessary for beginning builders. During completion of the 16' X 10' portable building, you will learn proper techniques for laying a roof with discussions and demonstrations of the following roof construction steps: laying the roof deck, attaching metal flashing along the edges, rolling out and laying the roofing felt, marking the felt to prepare it for the asbestos shingles, and cutting a nailing composition shingles in an effective method and pattern.

Building Construction: Concrete & Masonry

R2 000.00

Item Number: HSENG089

DVD / 144 minutes / 4 sections / 4 printable resources / 17 web resources

Join an educational instructor in a lesson in safety and masonry techniques as students follow in selecting building materials and setting up guidelines. He stresses the consequences of poor workmanship and provides tips to create professional quality projects. This DVD also demonstrates the uses of concrete finishing tools to help in construction. A concrete expert shows how to use building techniques to form simple constructions, like a concrete slab. The course also includes informational steps for working with concrete.

Building Construction: Site Surveying & Development

R2 000.00

Item Number: HSENG090

DVD / 101 minutes / 3 sections / 3 printable resources / 17 web resources

In this DVD, expert Dr. Doug Ullrich, Jr., of Sam Houston State University will teach students about basic masonry, basic site evaluation, basic surveying and basic site development. Students will learn equipment identification, safety procedure and masonry techniques as he demonstrates how to build a brick wall and a block wall. Students will follow along as he selects the building material, sets up guide lines, mixes mortar, "butters" the bricks and blocks, lays row and explains clean-up procedures for building these standard structures. Using 3-D computer graphics, evaluation and surveying concepts are illustrated as the expert discusses equipment, field notes and other data collection and data analysis techniques. Students will observe pre-construction practices, view various stages of residential construction and examine developmental issues.

Building Construction: Basic Site Development

R2 000.00

Item Number: HSENG091

DVD / 27 minutes

An experienced instructor explains the step-by-step processes involved in developing land for a home or business. Graphics and visual effects help illustrate the concepts as you travel to various sites. You will observe pre-construction practices, such as preparing public roads, providing for drainage, leveling the site and installing utility lines. You will briefly view various stages of residential construction: pouring the slab, framing, roofing, completing the walls, bricking the outside and landscaping. In addition, you will examine developmental issues, such as zoning classifications, urban sprawl and land usage. A supplement is included.

Building Construction: Basic Surveying

R2 000.00

Item Number: HSENG092

DVD / 40 minutes

Computer-generated visual effects help illustrate surveying concepts often difficult to teach in a classroom setting, such as differential leveling and profile leveling. As the featured expert illustrates route surveying and the setting of property boundaries, he also discusses equipment, field notes, other data collection and data analysis techniques. A supplement is included.

Building Construction: Basic Site Evaluation

R2 000.00

Item Number: HSENG093

DVD9 / 34 minutes

A site evaluation can prevent costly mistakes when considering property for a home or business. In the video, an educator with more than a decade of experience demonstrates techniques for assessing site capabilities such as soil texture, topsoil erosion, standing water, wildlife, traffic and utilities accessibility. He also explains how to anticipate problems and consider solutions to less-than-ideal sites. Using 3-D computer graphics, the featured expert illustrates concepts-including slope, shrink/swell capacity, solar orientation and prevailing winds-that are often difficult to demonstrate in a classroom setting. A supplement is included.

Building Construction: Basic Masonry

R2 000.00

Item Number: HSENG094

DVD / 46 minutes

An experienced agricultural education instructor teaches equipment identification, safety and masonry techniques as he demonstrates how to build a brick wall and a block wall. Follow along as he selects the building material, sets up guide lines, mixes mortar, "butters" the bricks and blocks, lays rows and explains clean-up procedures for building these standard construction structures. He points out the consequences of poor workmanship and gives tips on how create professional-looking masonry structures. A supplement is included.

Building Planning Part 1

R2 000.00

Item Number: HSENG095

DVD / 2006 / 35 minutes

Exploring the basic requirements for building planning outlined in the 2006 IRC,® this program covers fire resistance for walls and openings, glazing, natural ventilation, illumination, room size and clearance, and sanitation needs.

Building Planning Part 2

R2 000.00

Item Number: HSENG096

DVD / 2006 / 35 minutes

This DVD details a variety of basic requirements for building planning found in the 2006 IRC.® It covers such topics as garage protection, emergency escape and rescue windows, minimum means of requirements, the means of egress, smoke alarm requirements, and townhouse separation.

Introduction to Blueprints

R2 000.00

Item Number: HSENG097

DVD / 1992 / 16 minutes

Emphasizing the importance of blueprints, this program outlines their purpose. It covers such topics as detail drawings, notes, dimensions, assembly drawings, orthographic projections, auxiliary views, sections, and pictorial drawings.

Introduction to Schematics and Symbols

R 2 000.00

Item Number: HSENG098

DVD / 1992 / 16 minutes

Defining schematics, this program teaches how to use schematics and considers their value. It covers such topics as electrical, pneumatic, hydraulic, and piping schematics; flow evaluation; electrical current; and fluid flow.

Ceiling Joists & Rafters

R2 000.00

Item Number: HSENG099

DVD / 33 minutes

Step-by-step instruction is provided for cutting ceiling joists and rafters. The featured expert explains and demonstrates proper techniques for some of the more exacting procedures necessary for beginning builders: "lipping" a joist, cutting a "birdsmouth," marking a ridgeboard and assembling the rafters. A supplement is included.

Ceiling and Roof Framing

R2 000.00

Item Number: HSENG100

DVD / 2004 / 12 minutes

This program follows the processes involved in constructing a roof. It covers such topics as spans, rafters, purlins, ceiling joists, and planking.

Fundamentals of Quality Concrete

R2 000.00

Item Number: HSENG101

DVD / 1998 / 16 minutes

Detailing the essential properties of quality concrete, this DVD explains what concrete is and how it is made. It shows how such factors as intended use, geography, and construction practices affect a concrete mixture and discusses quality issues.

Concrete: Composition & Mixing

R2 000.00

Item Number: HSENG102

DVD / 36 minutes

The following basics of concrete work are discussed: safety considerations when working with cement, concrete composition, formulas for determining amounts and mix ratios. The featured expert demonstrates the right way to mix concrete and the proper techniques for striking and floating an initial pouring. A supplement is included.

Concrete: Constructing Forms & Curing

R2 000.00

Item Number: HSENG103

DVD / 32 minutes

Join our concrete expert at a construction site where industrial forms are being constructed to mold concrete and hold it in place until it has reached the desired hardness. Then, see how to use similar techniques to build a simple form for a 2' x 2' concrete slab. Also discussed are avoiding problems, such as scaling and crazing and concrete strength in relation to curing time and environment. Shown are the steps to working concrete: pouring, spreading, striking, voiding, floating, resting and curing. A supplement is included.

Concrete, Masonry and Wood Foundation Walls

R2 000.00

Item Number: HSENG104

DVD / 2003 / 27 minutes

This program examines a variety of methods for foundation wall construction. It discusses concrete, masonry, and wood foundation walls; insulation; drainage; waterproofing; and underfloor spaces.

Concrete: Tool ID & Finishing

R2 000.00

Item Number: HSENG105

DVD / 33 minutes

The featured instructor identifies and demonstrates an edger, jointer, steel finishing trowel, wood float, magnesium float, mason's trowel, power trowel and bull float. He demonstrates how to use an ordinary shop broom to create non-slip finishes and shows how to make the popular exposed-aggregate finishes often used in walkways. Also explained is the use of ready-mix concrete for large projects. A supplement is included.

Construction Materials

R2 000.00

Item Number: HSENG106

DVD / 1993 / 17 minutes

This program introduces a variety of construction materials. It covers concrete, including missing concrete and concrete defects; brick; mortar; wallboard; and plasterglass. The DVD outlines masonry units, shows how to remove stains, and teaches how to patch and repair masonry.

Building Drawings

R2 000.00

Item Number: HSENG107

DVD / 1993 / 12 minutes

This DVD teaches how to use building drawings. It covers such topics as building sites, symbols, conventions, plans, site plans, floor plans, and working drawings.

Building a House: The Exterior

R2 000.00

Item Number: HSENG108

DVD / 2004 / 30 minutes

This set follows the construction of a wood-frame house. The Exterior documents the stages of construction. It covers foundation, framing, drainage, roofing, and cladding. The Interior examines plumbing, radiant floor heating, fixture and electrical installation, insulation, dry walling, painting, and final carpentry.

This video is the first of two parts that follows the construction of an up-scale, wood-frame house from the empty lot to the final coat of paint. Part One concentrates on the exterior of the home and documents the stages of construction: foundation, framing, drainage, roofing, cladding, and much more. Professional tradesmen are involved at every phase of the building process, including excavation of the hole, preparation of the foundation forms for concrete, framing the walls, placement of roof trusses, and final roofing. This video is appropriate for all Technology/Carpentry courses and also gives students a first-hand look at the variety of occupations involved in the construction of a house.

Building a House: The Interior

R2 000.00

Item Number: HSENG109

DVD / 2004 / 27 minutes

This set follows the construction of a wood-frame house. The Exterior documents the stages of construction. It covers foundation, framing, drainage, roofing, and cladding. The Interior examines plumbing, radiant floor heating, fixture and electrical installation, insulation, dry walling, painting, and final carpentry.

Ground Floors

R2 000.00

Item Number: HSENG110

DVD / 2006 / 27 minutes

This program describes ground floor structures, including raised timber floors, ground bearing slabs, and precast concrete floors. It discusses floor finishes, considers insulation, outlines criteria that affect floor selection, and explores causes of floor failure.

Drainage

R2 000.00

Item Number: HSENG111

DVD / 2004 / 30 minutes

This program traces the history of drainage systems from the open drains of 150 years ago. It looks at the role of sanitary reformer Edwin Chadwick in Great Britain and explains that modern drainage systems are effective, reliable, and inexpensive.

Project Management

R2 000.00

Item Number: HSENG112

DVD / 1998 / 10 minutes

This video follows the management and design of a bridge development project from the awarding of the contract through construction and completion. It discusses scheduling techniques, handling major glitches, and remedial strategies for miscalculations.

Basic Stud Frame Construction

R2 000.00

Item Number: HSENG113

DVD / 1992 / 38 minutes

Using a scale model, this program teaches how to construct a wood-frame portable building. It shows how to lay out a plate, make a corner and tee, frame, make headers, and install ceiling joists and rafters. The program features step-by-step demonstrations by a building and construction expert and includes an educational supplement.

In the program, viewers are shown procedures necessary for constructing a 16' X 10' wood-frame portable building. To help viewers visualize the steps in the project, the featured expert "builds" a scale model of the structure. Discussion includes how to layout a plate, how to make a corner and tee, framing procedures, making headers and putting in ceiling joists and rafters. A supplement is included.

Basic Scaffolding: Safety & Assembly, DVD

R2 000.00

Item Number: HSENG114

Lesson topics include:

- Scaffold elements
- Scaffold construction
- Scaffold dismantling
- and many more!

Scaffolding safety procedures are addressed as students assemble a two-tiered scaffold. A scaffolding professional, with over 30 years experience in the construction industry, takes viewers through the step-by-step process of constructing a scaffold. Although many types of scaffolds exist, the presentation details the set-up, dismantling and elements of a standard scaffold. A final checklist ensures the correct and safe way to construct a scaffold. A supplement is included.

Framing

R2 000.00

Item Number: HSENG115

DVD / 1992 / 28 minutes

This program shows how to construct the framework and interior wall partitioning for a wood storage building. It teaches how to lay out plates and make corners and tees. The DVD also shows how to construct wall units, partitions, window and door units, and headers.

Using the procedures shown on the program, viewers will be able to construct the framework and interior wall partitioning for a 16' x 10' wood storage building. The construction expert demonstrates how to layout plates and make corners and tees. Then, he shows how to construct wall units, partitions, window and door units and headers. A supplement is included.

Foundation & Flooring, DVD

R2 000.00

Item Number: HSENG116

Lesson topics include:

- Laying floor joists
- Squaring a foundation
- Laying floor
- and many more!

The instructional tape explains the steps for laying a foundation and subsequent flooring for a 16' X 10' portable building. The construction expert demonstrates how to lay floor joists, square a foundation and lay flooring. Tips and suggestions for a professional-looking job are provided. A supplement is included

Roofing

R2 000.00

Item Number: HSENG117

DVD / 37 minutes

The construction expert discusses and demonstrates the following steps of roof construction: laying the roof deck, attaching metal flashing along the edges, rolling out and laying the roofing felt, marking the felt to prepare it for the asbestos shingles and cutting and nailing composition shingles in an effective method and pattern. A supplement is included.

Roof Structure

R2 000.00

Item Number: HSENG118

DVD / 2002 / 26 minutes

This DVD describes a simple traditional roof and explores more complex structures that use trusses and purlins. It also examines the advantages and disadvantages of modern trussed rafter roofs and shows their fabrication and erection.

This film describes and compares the construction of new and old roofs. The first part of the film concentrates on the components in a simple traditional roof and subsequently explains more complex structures using trusses and purlins. The second part of the film the advantages and disadvantages of modern trussed rafter roofs and shows their fabrication and erection. This film has been completely revised. It has a new script, completely new footage and improved graphics.

Topics include

- Eaves details
- Couple and closed couple roofs
- Hangers, binders and purlins
- Trusses and strutted purlins
- TRADA trusses
- Erection and bracing of trussed rafters
- Wall Strapping

Bridges

R2 000.00

Item Number: HSENG119

DVD / 1988 / 22 minutes

Featuring footage of the Tacoma Narrows Bridge collapse, this DVD looks at the design and purpose of bridges. It presents a historical survey of bridges from ancient Roman structures to modern bridges and shows advanced materials and construction methods.

House Construction: A Brief History of Housing

R 2 000.00

Item Number: HSENG120

DVD / 1995 / 25 minutes

This DVD looks at housing types and construction materials over the last millennium and highlights the developments made during the centuries following the Middle Ages.

MECHANICAL AND INDUSTRIAL ENGINEERING

Hydraulic and Pneumatic Symbols

R2 000.00

Item Number: HSENG121

DVD / 1991 / 18 minutes

Introducing hydraulic and pneumatic symbols, this program covers such topics as fluid power, reservoirs, receivers, pumps, compressors, actuators, valves, piping, and tubing.

Introduction to Fluid Power

R2 000.00

Item Number: HSENG122

DVD / 1992 / 19 minutes

This DVD outlines the principles that govern fluid power and describes current and potential applications in industry. It introduces fluid power formulas and shows how to read circuit drawings. The program covers such topics as hydraulic and pneumatic systems, control systems, pressure regulators, pumps, valves, and actuators.

Fluid Power Technology at Work

R2 000.00

Item Number: HSENG123

DVD / 1993 / 24 minutes

This program surveys applications of hydraulics and pneumatics, including the steam engine and robotics. It highlights the advantages of hydraulic versus pneumatic systems and considers fluid power in transportation, machining, manufacturing, energy, and chemical processing.

Metal Casting: Sand Moulds

R2 000.00

Item Number: HSENG124

Metal Casting: Die Casting

R2 000.00

Item Number: HSENG125

Cutting Tool Design

R2 000.00

Item Number: HSENG126

DVD / 2007 / 27 minutes

This program explores single-point and multi-point cutting tool geometries and examines the machining variables that affect cutting tool design. It discusses indexable insert geometries, chipbreaker designs, and toolholders for use in turning operations. The DVD also looks at linear and rotary travel multi-point tools.

Composite Tooling Design

R2 000.00

Item Number: HSENG127

DVD / 2008 / 22 minutes

This program explores the wide variety of materials used to create composite tooling, including glass reinforced polyester/vinylester laminated tooling, carbon/glass fiber-reinforced epoxy/bismaleimide laminated tooling, invar, invar-coated carbon fiber reinforced tooling, and steel. It also reviews different types of composite manufacturing support tools.

Cutting Tools Geometries

R2 000.00

Item Number: HSENG128

DVD / 2003 / 27 minutes

This DVD examines the angles and geometries of milling and turning cutting tools. It shows how to identify which tools are most desirable for a particular machining operation.

DFM: Design for Manufacturing

R2 000.00

Item Number: HSENG129

DVD / 1991 / 43 minutes

Using case studies of Storage Technology, Caterpillar, Xerox, and IBM, this program shows how design for manufacture policies reduce costs and lower part counts. It shows how using such standardized components as predesigned building blocks can expedite product development.

How a Factory Works

R2 000.00

Item Number: HSENG130

DVD / 2001 / 30 minutes

Featuring a case study of stove manufacturer Leisure Consumer Products that shows how they introduced a new production process in their factory, this program illustrates the various aspects of the manufacturing process, including batch production, flow production, lean manufacturing, and just-in-time techniques.

Gears and Gear Manufacturing

R2 000.00

Item Number: HSENG131

DVD / 2003 / 22 minutes

This program examines the various gear types, explores gear functions, and traces the production of gears. It defines gear and gear-tooth terms and dimensions, including base circle, pitch circle, outside circle, root circle, pitch point, line of action, pressure angle, addendum, and dedendum, and tooth thickness.

Failure Mode Effects Analysis

R2 000.00

Item Number: HSENG132

DVD / 2002 / 14 minutes

Explaining the difference between a product and a process risk, this DVD shows how manufacturers can use Failure Mode Effects Analysis (FMEA) documents to reduce the risk of product failure. It includes a case study.

Breakthrough Kaizen Events

R2 000.00

Item Number: HSENG133

DVD / 2000 / 20 minutes

This program documents the kaizen event process and explains how it helps organizations improve productivity, solve safety and ergonomic issues, and eliminate waste. It features a kaizen event at Lantech Corporation.

Mapping Your Value Stream

R2 000.00

Item Number: HSENG134

DVD / 2000 / 33 minutes

This DVD explains how to use value stream mapping to find waste in a production system and shows how the Donnelly Corporation used value stream mapping to reduce inventory and create one-piece flow in assembly.

Five S Factory Makeover

R 2 000.00

Item Number: HSENG135

DVD / 2005 / 25 minutes

This program features two case studies of companies that have implemented the Five S program (sort out, set in order, shine, standardize, and sustain) to clean and organize their factories. It looks at increased productivity as a result of clean and organized factories and shows how to identify and eliminate waste.

C-17 Production Operations and Lean Manufacturing

R2 000.00

Item Number: HSENG136

DVD / 2003 / 26 minutes

Presenting a case study of Boeing's C-17 aircraft program, this program explores the company's lean manufacturing process. It features Jay L. Galloway, who discusses the ways in which lean operations have allowed the company to optimize resources, improve efficiency, and eliminate waste.

Denso Lean, Visual Factory: Lean Visual Factory Management Principles and Industrial Examples

This set examines Denso Corporation's lean manufacturing system solutions in a visual factory management and control (VFM) framework. It shows how to use VFM to reduce waste and improve profits, lean production control, product and process quality, productivity, safety, delivery, and employee morale.

Part No. 1

R2 000.00

Item Number: HSENG137

DVD / 2007 / 29 minutes

Part No. 2

R2 000.00

Item Number: HSENG138

DVD / 2007 / 28 minutes

Introduction to Lean Manufacturing

R2 000.00

Item Number: HSENG139

DVD / 1999 / 15 minutes

This DVD introduces lean manufacturing and explains why companies adopt lean principles. It identifies value-added and non-value-added activities and emphasizes the importance of total system efficiency. The program also offers examples of visual management, standardized work, and flexible workplaces and shows how companies make necessary changes.

What Lean Means

R2 000.00

Item Number: HSENG140

DVD / 2007 / 25 minutes

This DVD explores the current and potential uses of lean manufacturing. It features George Koenigsaecker, president of Lean Investments, LLC, and Lean Sensei, who analyzes lean concepts as they relate to the operations of Shingo Prize-winning company Hearth & Home Technology and discusses the current state and employee culture of the lean company. The program also looks at the behavior of management at Toyota.

Building a Lean Culture

R2 000.00

Item Number: HSENG141

DVD / 2006 / 20 minutes

is program shows how HID-Connecticut uses teamwork, community involvement, and social interaction among employees to spawn new ideas for improved quality, cost, and delivery. It explains how integrated quality controls and training simulations in 5S, kanban, and value stream mapping help instill a continuous improvement philosophy in employees.

Learning Lean Through Simulation

R2 000.00

Item Number: HSENG142

DVD / 2003 / 24 minutes

This program offers a simulated lean transformation that shows how competing teams use different methods to solve similar problems and find opportunities for improvement in assembly processes.

The Human Side of Lean Manufacturing: Life in a Work Cell

R2 000.00

Item Number: HSENG143

DVD / 2007 / 23 minutes

In this program, workers in a lean manufacturing facility explain how they designed and built their own workcell. They discuss the benefits to their company and the profound improvements in their work lives. Following the employees in their daily routines, the DVD covers such topics as cellular versus line and functional layouts, the benefits of cells, management responsibilities, training, and adjustment to a new environment.

**New Solutions and Future Trends in Advanced Hi-Tech
Manufacturing Technology, Automation, Lean and Reconfigurable
Cellular Manufacturing** **R5 300.00**

Item Number: HSENG144

4 DVDs / 2011 / 120 minutes total

This set looks at three-dimensional, interactive scanning systems integrated with advanced CAD/CAM systems, networked CNC machines, and multiple robots working in collaboration.

**New Solutions and Future Trends in Advanced High-Tech
Industrial Robotics** **R5 300.00**

Item Number: HSENG145

4 DVDs / 2010 / 120 minutes total

Featuring practical demonstrations from the U.S. and Japan, this set explores high-tech advanced robotics.

Computer-Integrated Manufacturing **R2 000.00**

Item Number: HSENG146

DVD / 1987 / 17 minutes

This DVD examines the use of computers in tolerancing, discusses surface finish specifications, considers geometric modeling and parts dimensioning, and shows how flexible manufacturing systems and group technology can enhance productivity. It emphasizes that computer-integrated manufacturing (CIM) has become an integral part of manufacturing development.

HVAC: Equip & Test Instruments, DVD **R2 000.00**

Item Number: HSENG147

Lesson topics include:

- Electronic charging scale
- Vacuum pump
- Valve core depressor
- Shrader valve
- Halide leak detector
- Volt-ohm milliammeter
- Sling psychrometer
- and many more!

The presentation provides education for students interested in the HVAC industry. The expert demonstrates equipment and test instruments, such as an electronic charging scale, a sling psychrometer and ammeters. Almost 20 different pieces of equipment and test instruments are covered in the presentation. A supplement is included.

HVAC: Service & Installation Tools, DVD

R2 000.00

Item Number: HSENG148

Lesson topics include:

- Reamers
- Tube benders
- Tube cutters
- and many more!

The first step to working in the HVAC industry is learning about the most widely used tools and materials and how to properly handle them. The presentation is designed to educate students on service and installation tools, such as reamers, tube benders and tube cutters. An air conditioning and refrigeration technology professor demonstrates 15 tools. A supplement is included.

HVAC: The Refrigeration Cycle, DVD

R2 000.00

Item Number: HSENG149

Lesson topics include:

- Refrigeration Cycle
- Compressor
- Condenser
- Evaporation
- Metering device
- Refrigerants
- and many more!

With computer animation and an actual air conditioning system, students view and understand the purpose of the four major HVAC components (compressor, condenser, evaporator and metering device) as they relate to the refrigeration cycle. The function of the refrigeration cycle is to absorb heat at one location and dispose of it in another location. Proper understanding of the vapor compression refrigeration cycle is necessary for anyone entering the field of air conditioning or refrigeration. The pressure-temperature relationship of the refrigerant as it flows through the cycle will be explained, along with brief discussions on refrigerants and basic terminology. A supplement is included.

Machining: Removing Material

R2 000.00

Item Number: HSENG150A

DVD / 1994 / 32 minutes

Although the basic layout of the engine lathe has not changed since its invention in the 1820s, advances in cutting tool materials and automation have drastically increased the lathe's productivity. This DVD details metal removal and explains the benefits and drawbacks of such production machines as engine lathes and seven-axis CNC lathes. It features an OEM parts supplier.

Mass Customization: Conversations with Innovators in Manufacturing

R2 000.00

Item Number: HSENG150B

DVD / 2000 / 20 minutes

This DVD presents case studies in mass customization that demonstrate why companies must rethink outdated assumptions regarding efficiency.

Ford **R2 000.00**

Item Number: HSENG151

DVD / 2005 / 15 minutes

This program profiles Ford Motor Company's Chicago Assembly Plant (CAP), which features flexible robotics that are able to produce any model on a single assembly line.

Systems in a Factory **R2 000.00**

Item Number: HSENG152

DVD / 2004 / 26 minutes

This DVD examines the key systems used in factories. It compares continuous flow production to lower volume batch production and discusses CAD and CAM.

Inside a Factory: The New Mini **R2 000.00**

Item Number: HSENG153

DVD / 2003 / 30 minutes

This program examines the process of manufacturing cars. It tours BMW's Mini factory in Oxford, England, and explores the steps of the production process.

Methods of Production: Job, Batch and Continuous Flow **R 2 000.00**

Item Number: HSENG154

DVD / 2009 / 28 minutes

This program introduces the different methods of production. It looks at job, or "one off," production; batch production, which uses the same basic equipment to make batches of different products; and continuous flow, or mass, production, which is the most well-known type of manufacturing. The DVD offers examples of each production method.

LASER: The Extraordinary Light for Material Processing **R2 000.00**

Item Number: HSENG155

DVD / 2000 / 42 minutes

Introducing laser technology, this program explores the fundamentals of light amplification by stimulated emission of radiation. It examines laser processes and products, including solid-state and gas-lasers, excimer and diode lasers, beam characteristics and beam guiding systems, material changing and melting processes, cutting and separating processes, and coating and adding processes.

Power Supplies and Motors **R2 000.00**

Item Number: HSENG156

DVD / 2007 / 30 minutes

Reviewing basic theory, this program explores the operation of common power supplies and motors. It also looks at a variety of associated components.

Nanotechnology Manufacturing

R2 000.00

Item Number: HSENG157

DVD / 2003 / 43 minutes

In this program, Steve Fonash of the Penn State Nanofabrication Facility explains why experts have predicted that nanotechnology will be the progenitor of the second industrial revolution. The program assesses approaches to utilizing nanotechnology in manufacturing, considers their manufacturing advantages, and examines the feasibility of nanofabrication.

Advanced Difficult Manufacturing Technology Challenges and Working Solutions

R2 000.00

Item Number: HSENG158

4 DVDs / 2011 / 120 minutes total

This set offers complex manufacturing process and system demonstrations involving such advanced methods and tools as practical computer-controlled machines, robotics, and real-time inspection.

Advanced Grinding

R2 000.00

Item Number: HSENG159

DVD / 2009 / 32 minutes

This program shows how grinding has evolved to offer a more effective process and more accurate cutting tools. It considers the benefits of less complex systems and explores advanced cylindrical grinding, tool and cutter grinding, and grinding of thermal spray coatings.

Power Supplies and Motors

R2 000.00

Item Number: HSENG160

DVD / 2007 / 30 minutes

Reviewing basic theory, this program explores the operation of common power supplies and motors. It also looks at a variety of associated components.

Lubrication Systems

R2 000.00

Item Number: HSENG161

DVD / Copyright © 1992 / 27 minutes

This video provides a comprehensive explanation of the theory and design of lubrication systems, including operation and function of all major components.

- Motor oil
- Pump
- Filter
- Galleries
- Functions of the Lubrication System

CNC and Robot Integrated Cells and Flexible, Agile, Reconfigurable Manufacturing Systems, 1 – 4 DVD SET

R7 000.00

Item Number: HSENG162

4 DVDs / 2010 / 120 minutes total

Featuring animations and real-life examples, this set illustrates the basic principles of numerical control (NC) and computer numerical control (CNC) and discusses machine components. It also considers CNC machine and robot integrated cells.

Engineering Technology: Principles of Flight

R3 700.00

Item Number: HSENG163

2 DVDs / 1993 / 29 minutes each

This set discusses aerodynamic principles, shows how the forces of lift and gravity affect an aircraft in flight, and illustrates the effects of thrust and drag.

Machining: Cutting Material

R2 000.00

Item Number: HSENG164

DVD / 1996 / 28 minutes

This DVD examines cutting tools and methods for a variety of materials. It introduces power hacksaws; band saws; oxyacetylene, plasma arc, water jet, and laser technologies; wire cutting; and ultrasonic machining.

Tribology

R2 000.00

Item Number: HSENG165

DVD / 1983 / 30 minutes

This program explores a variety of topics in tribology. It considers interrelationships among tribology principles, discusses associated technical literature, and demonstrates the influence of hardness on areas of contact between surfaces. The DVD also examines current applications of tribology and looks at underlying tribology theory.

AIRCONDITIONING AND REFRIGERATION

TATR 070 – Introduction

R1 350,00

- Components
- Common Terms
- Refrigerants
- Controls
- Basic Maintenance

TATR 163 – Components and Controls

R1 350,00

- Compressors
- Evaporators and Condensers
- Expansion Devices
- Auxiliary Components
- Control Devices
- Typical Control Circuits

TATR 117 – Service Procedure

R1 350,00

- Safety
- Environmental Regulations
- Connecting to a Refrigerant System
- Discharging
- Evaluating
- Charging
- Checking for Leaks
- Installing and Replacing Components

TATR 162 – Trouble Shooting

R1 350,00

- Safety
- Systematic Trouble Shooting
- Trouble Shooting Air Conditioning
- Trouble Shooting Refrigeration

Air Conditioner Fundamentals

R2 000.00

Item Number: HSENG166

DVD / 1999 / 16 minutes

Featuring illustrative graphics, this program examines the operation of an air conditioner refrigeration system. It explains the complete refrigeration cycle and shows the roles of the air conditioner's various components in each phase of the cycle.

Defining Refrigeration

R2 000.00

Item Number: HSENG167

DVD / 1996 / 45 minutes

This program introduces fundamental mechanical theory concepts related to refrigeration. It covers system components and their functions, safety procedures, tools, and equipment. The DVD also defines heat transfer, latent heat, sensible heat, superheat, specific heat, vaporization, conduction, and pressure.

Basic Machining Skills 1

R2 000.00

Item Number: HSENG168

DVD / 1995 / 45 minutes

This program introduces basic machining tools. It demonstrates layout techniques and proper procedures for using a drill press, band saw, belt sander, and grinder.

Basic Machining Skills 2

R2 000.00

Item Number: HSENG169

DVD / 1995 / 45 minutes

This DVD teaches how to drill holes in plastics and hard materials. It discusses the drill and tap index and addresses drill press limitations. The program also shows how to use a bandsaw.

Basic Machining Skills Part 3

R2 000.00

Failures of Gears

R2 000.00

Item Number: HSENG170

DVD / 1992 / 46 minutes

Presenting a practical approach to failure analysis of gear systems, this program examines gear-tooth contact as it relates to wear pattern and tooth ratio, looks at operating loads, and outlines causes of gear failure. It covers such classifications of gear failures as wear, surface fatigue, plastic flow and fracture, and design-related cracking.

Failures of Mechanical Fasteners

R2 000.00

Item Number: HSENG171

DVD / 1992 / 41 minutes

This DVD examines the origins of failure in mechanical fasteners. It considers damage to rivets, blind fasteners, and special-purpose fasteners caused by fatigue, fretting, corrosion, hydrogen damage, and elevated temperatures.

Fixture Design

R2 000.00

Item Number: HSENG172

DVD / 2007 / 19 minutes

Explaining the important role of fixturing in the proper machining of a part, this program explores the issues that influence the development of fixtures. It looks at fixture types and examines the use of component kits to quickly construct modular fixturing systems.

SKILLS

Auto Body Repair, 12 Part DVD Series

R20 000.00

Item Number: HSENG173

12 part DVD series / 15-24 minutes each

This exciting 12-part series offers a complete crash course on how to make damaged vehicles look new again. Ideal for introducing, reinforcing, and reviewing essential body shop practices, procedures, tools, and techniques. Safety is stressed.

Each informative video starts with a demonstration of the proper tools and preparations and then follows an apprentice technician through the job at hand. Automotive experts thoroughly explain key technical points.

Viewable/printable instructor's guides available online provide learning objectives, program summaries, educational standards, vocabulary terms, auto tech trivia questions, discussion and assessment questions, video scenarios, student activities, and lists of additional resources.

The Series Includes:

- Auto Body Repair Basics
- Auto Construction
- Welding
- Dings and Scratches
- Replacing and Adjusting Panels
- Body Alignment
- Structural Analysis and Damage Repair
- Plastics and Adhesives
- Electrical Repairs
- Braking System Repair
- Surface Preparation and Refinishing
- Miscellaneous Repairs

Correlates to the standards for the Collision Repair and Refinish Technician Training Certification Program, from the National Institute for Automotive Service Excellence and the National Automotive Technicians Education Foundation.

TITLES IN THIS SERIES CAN BE PURCHASED INDIVIDUALLY AT R1 800.00 PER TITLE.

PLUMBING

Tools of the Trade: Inside the Plumber's Toolbox, DVD

R 2 000.00

Item Number: HSENG174

DVD / 32 minutes

From plungers, to pipe wrenches, to Teflon tape, this program introduces each common tool of the plumbing trade with a brief demonstration of its proper use. Safety precautions and industry tips are provided as well, and four major types of piping and tubing—steel, copper, plastic, and cast iron—are described.

Plumbing: Rough-in and Final, DVD

R2 000.00

Item Number: HSENG175

DVD / 19 minutes

This program looks at plumbing in its two construction phases: rough-in, or initial installation, and final. Details of water systems and drainage, waste, and venting (DWV) systems are examined, as well as tools commonly used.

Residential Plumbing, DVD

R2 000.00

Item Number: HSENG176

DVD / 14 minutes

Our in-house narrator, Shawn, takes on plumbing as he works with a professional plumber. We find out what it takes to design the plumbing service, and how to install pipes, faucets, drains, sinks, bathtubs, and showers. Shawn shows us how to rough in the pipes, cut holes in the floor, sweat copper pipes, and bond PVC pipes. An extremely instructive how-to video.

Plumbers and Steamfitters, DVD

R 2 000.00

Item Number: HSENG177

DVD / 13 minutes

Once your students have taken the tour and seen what the skilled construction trades have to offer, they will want to know more about specific jobs that may interest them. This fast-paced program provides a concise profile of plumbers and steamfitters, looking at educational background, apprenticeships, salary, and the work itself.

Installing Utilities, DVD

R 2 000.00

Item Number: HSENG178

DVD / 20 minutes

Details the installation of utilities of all types: electrical communications, water, sewage, and natural gas. The process of installation for each type of utility is covered in depth, including the workers who perform the tasks, the specific tasks themselves, materials and components used, as well as an explanation of how the utilities operate, and the finishing stages of installation for each. A brief discussion of automated control (Smart House) systems is included.

Plumbing, DVD

R 2 000.00

Item Number: HSENG179

DVD / 14 minutes

Watch basic plumbing installation for residential and commercial construction including pipe fitting and bathroom fixtures.

Plumbing: Copper Pipe, DVD

R2 000.00

Item Number: HSENG180

Lesson topics include:

- Soldering
- Cutting
- Burr removal
- and many more!

Focus on the measuring, cutting and fitting of rigid and flexible copper pipe. Procedures demonstrated in this presentation include preparing the pipe for soldering, cutting rigid and flexible copper pipe and the subsequent burr removal and scarfing processes. Selection and use of soldering paste and solder, setup and use of a propane torch to solder copper connections, assembly and soldering techniques for a gate valve and preparation and usage for threaded connections also are presented. A supplement is included.

WELDING

Welding

R2 000.00

Item Number: HSENG181

23 minutes

This video puts safety first as it explains how to use a MIG (GMAW) welder. Weld types, welder setup, destructive tests, and general welding techniques are covered. The causes of contact burnback, incomplete fusion, and other problems are identified. A viewable/printable instructor's guide is available online. Correlates to the standards for the Collision Repair and Refinish Technician Training Certification Program, from the National Institute for Automotive Service Excellence and the National Automotive Technicians Education Foundation. A Shopware Production. Part of the series Auto Body Repair.

Tools of the Trade: Inside a Welders Toolbox

R2 000.00

Item Number: HSENG182

DVD, 23 minutes

Welding is part skill, part science, and a whole lot of precautions. This program shows viewers the safe way to work with fire, gas, and molten metal as it profiles the tools used by welders to perform a variety of tasks. Specific tools and equipment for OFW, GMAW, GTAW, and SMAW are spotlighted, along with a variety of general tools and safety items. The video also takes a look at basic welding diagrams and pre-welding treatment of materials. A viewable/printable instructor's guide is available online. Correlates to all National CTE Organizational Standards (including the provisions of the Perkins Act).

Recommended for high school, vocational/technical school, and adult education.

Correlates to the competency standards for Core Introductory Craft Skills from the National Center for Construction Education and Research, the America Welding Society's Content Standards, and to SkillsUSA Examination Standards.

Shield "Stick" Metal Arc Welding

R2 000.00

Item Number: HSENG183

DVD / 60 minutes / 6 sections / 3 printable resources / 5 web resources

Dr. Billy Harrell, Sam Houston State University, provides a broad range of welding demonstrations with detailed explanations to make this DVD suitable for students of all welding levels.

- Welding Safety
- Electrodes and Electrode Angles
- Nick Break, Spark and Guide Bend Tests
- Metal Identification
- Arc Lengths
- Travel Speeds

Oxy- Acetylene Safety and Welding

R2 000.00

Item Number: HSENG184

DVD / 120 minutes / 2 sections / 4 printable resources / 9 web resources

Expert Dr. Billy Harrell, professor and chair of the division of Agricultural Sciences and Vocational Education at Sam Houston State University, provides visual interaction to learn the proper clothing, setup, safety, care and operation of equipment.

- Terminology, purpose and installation of equipment
- Proper operating procedures, such as set working pressures and adjust flames
- Detailed explanation of rods and fluxes utilized in welding and brazing
- Metal preparation and safety
- Performance of various welds - puddle, bead with a filler rod, butt-weld, lap-weld, T-weld and outside corner-welding different cuts and multi-pass fillet demonstrations

Oxy-Acetylene Cutting**R2 000.00****Item Number: HSENG185**

DVD / 40 minutes

Learn safety instructions involved in setting-up and shutting-down the oxy-acetylene hand torch and track torch, proper attire and safety equipment, turning on cylinders, adjusting regulators to attain correct working pressures, assembling the torch and necessary equipment for cutting. Utilizing varying thickness of metal, 10 different cuts with the hand torch and track torch are demonstrated. A supplement is included.

HVAC: Sheet Metal Tools and Materials**R2 000.00****Item Number: HSENG186**

DVD / 27 minutes

HVAC: Sheet Metal Tools and Materials is a program designed to demonstrate sheet metal tools and materials most frequently used in the HVAC industry. Our experts educate students on the operation and handling of approximately 20 different types of sheet metal tools and materials. Items covered include aviation snips, double cut shears, open mesh cloth and many more. A supplement is included.

Weld Test Coupon Preparation: Plate and Pipe**R2 000.00****Item Number: HSENG187**

DVD / 25 minutes

Preparing plate and pipe for a weld test is the focus of the video. The program shows students how to prepare 3/8" plate coupon and 8" diameter .375" wall pipe coupons. First discussed is preparing the 3/8" Plate: beveling the plate using a track torch; filling beveled edges to form the landings; and tacking the plates together utilizing a spacing tool to attain a 1/16" gap. Next, viewers see how to prepare the 8" diameter .375" wall pipe: beveling the pipe to form test coupons; filing the beveled edges to form landings; aligning the pipe coupons using a spacing tool to attain an approximate 1/16" gap; and grinding the tacks. Uniformity of spacing is emphasized during tacking of both plate and pipe test coupons. A supplement is included.

Tool Security and Maintenance**R2 000.00****Item Number: HSENG188**

DVD / 25 minutes

Several methods of tool storage and maintenance are explained during the program. Examples of tool cabinets and central tool rooms are shown and discussed. Any shop teacher will welcome the featured expert's discussion of tool checkout systems, inventory control and security. A supplement is included.

WELDING**Blueprint Reading for Welders**

WELD001-DVD – Basic Blueprint Reading: Lines, Views and Dimensions, 14 minutes

R1 350.00

WELD002-DVD – General Welding Symbols Part I, 15 minutes

R1 350.00

WELD003-DVD – General Welding Symbols Part II, 15 minutes

R1 350.00**Welding Safety**

WELD004-DVD - Confined Space Hotwork, 20 minutes

R1 350.00

WELD005-DVD – Oxyfuel Gas Cutting, 13 minutes

R1 350.00**Introduction to Oxyfuel Welding**

WELD006-DVD – Welding Equipment, Accessories and Shop Safety

R1 350.00

WELD007-DVD – Set-up and Shutdown of Oxyfuel Welding Equipment, 14 minutes

R1 350.00

WELD008-DVD - The Three Types Oxyfuel Flames, 10 minutes

R1 350.00

WELD009-DVD – Joint Design and Welding Terms, 12 minutes

R1 350.00

Oxyfuel Welding Series

WELD010-DVD – Puddling and Running Beads, 11 minutes	R1 350.00
WELD011-DVD – Flat & Horizontal Butt Welds with Filler Rod, 11 minutes	R1 350.00
WELD012-DVD – Vertical & Overhead Butt Welds with Filler Rod, 12 minutes	R1 350.00
WELD013-DVD - Oxyfuel Gas Welding T-Joints, Lap Joints, Corner Joints and Edge Joints, 12 minutes	R1 350.00

Pipe Welding

WELD014-DVD – Introduction to Pipe Welding, 14 minutes	R1 350.00
WELD015-DVD – Joint Design and Preparation, 12 minutes	R1 350.00
WELD016-DVD – Carbon Steel Pipe Welding, 18 minutes	R1 350.00
WELD017-DVD – Alloyed Steel Pipe Welding, 21 minutes	R1 350.00
WELD018-DVD – Aluminium Pipe Welding, 12 minutes	R1 350.00

Oxyfuel Cutting

WELD019-DVD – Cutting Metal with the Combination Torch, 11 minutes	R1 350.00
WELD020-DVD – Piercing, Cutting Holes and Cutting 45-Degree bevels with the Cutting Torch, 11 minutes	R1 350.00

Oxyfuel Brazing and Soft Soldering

WELD021-DVD – Bronze Welding in Flat and Horizontal Positions, 12 minutes	R1 350.00
WELD022-DVD - Silver Brazing and Soft Soldering, 11 minutes	R1 350.00
WELD023-DVD – Brazing and Fusion Welding on Gray Cast Iron, 13 minutes	R1 350.00

Introduction to Gas Metal Arc Welding (GMAW)

WELD024-DVD – Safety and Equipment for GMAW, 11 minutes	R1 350.00
WELD025-DVD – Setting and Padding of the Inert GMAW, 12 minutes	R1 350.00

Welding with Gas Metal Arc

WELD026-DVD - Butt Joint, T-Joint, Lap Joint & Outside Corner Joint in Horizontal Position with GMAW, 11 minutes	R1 350.00
WELD027-DVD - Butt Joint, T-Joint, Lap Joint & Outside Corner Joint in Vertical & Overhead Position with GMAW, 10 minutes	R1 350.00
WELD028-DVD – Setting up Flux-Cored Wire & Running Continuous Beads, 8 minutes	R1 350.00
WELD029-DVD – Butt Joint, T-Joint & Lap Joint with Dual Shielded, 9 minutes	R1 350.00
WELD030-DVD – Multi-Pass Welding with Dual Shielded, 11 minutes	R1 350.00
WELD031-DVD – Setting up Aluminium Wire-Feed & Running Butt, T-Joints and Lap Joints, 16 minutes	R1 350.00

Introduction to Gas Tungsten Arc Welding (GTAW)

WELD032-DVD – Safety in GTAW, 8 minutes	R1 350.00
WELD033-DVD – Selection of Electrodes, Gas, Cups & Filler Rods for Inert GTAW, 15 minutes	R1 350.00

Welding with Gas Tungsten Arc

WELD034-DVD – Welding Aluminium with GTAW, 15 minutes	R1 350.00
WELD035-DVD – Welding Mild Steel with GTAW, 20 minutes	R1 350.00
WELD036-DVD – Welding Stainless Steel with GTAW, 12 minutes	R1 350.00
WELD037-DVD – Submerged Arc Welding, 13 minutes	R1 350.00

Introduction to Shield Metal Arc Welding (SMAW)

WELD038-DVD – Electric Arc Power Sources and Minor Maintenance, 7 minutes	R1 350.00
WELD039-DVD – Safety in Electric Arc Welding & Terms, 7 minutes	R1 350.00
WELD040-DVD – Selection of Electrodes, 10 minutes	R1 350.00

Welding with Shield Metal Arc

WELD041-DVD – Striking an Arc, Restarting the Arc & Running a Continuous Bead in the Flat Position, 13 minutes	R1 350.00
WELD042-DVD – Running Continuous Beads in the Horizontal and Vertical Down Positions, 10 minutes	R1 350.00
WELD043 DVD – Running Continuous Beads in the Vertical Up and Overhead Positions, 10 minutes	R1 350.00
WELD044-DVD – Electric Arc Welding in Flat, Horizontal, Vertical & Overhead Butt Welds, 13 minutes	R1 350.00
WELD045-DVD – T-Joint, Lap Joint and Outside Corner Joint in the Flat Position, 9 minutes	R1 350.00
WELD046-DVD – T-Joint, Lap Joint and Outside Corner Joint in the Horizontal Position, 12 minutes	R1 350.00
WELD047-DVD – T-Joint, Lap Joint and Outside Corner Joint in the Vertical Up Position, 9 minutes	R1 350.00
WELD048-DVD – T-Joint, Lap Joint and Outside Corner Joint in the Overhead Position, 8 minutes	R1 350.00
WELD049-DVD – Multi-Pass Electric Arc Welding, 11 minutes	R1 350.00
WELD050-DVD – Welding Cast Iron in the Flat Position & Hard facing Surfaces, 8 minutes	R1 350.00
WELD051-DVD – Carbon Arc Welding, 8 minutes	R1 350.00

GENERAL

Hand Tool Identification and Terminology, 2 DVD's **R2 000.00**

A Good Job for a Woman: Engineering **R2 000.00**

Item Number: HSENG189

DVD / 1993 / 25 minutes

This DVD explores the work of civil, software, mechanical, and electrical engineers. It profiles female engineers involved in projects ranging from the Space Arm to community beautification. The program also examines the benefits and rewards of careers in engineering and encourages young women to pursue careers in the engineering field.

Professional Ethics and Engineering **R2 000.00**

Item Number: HSENG190

DVD / 1999 / 15 minutes

This program highlights common ethical dilemmas that engineers face in the work environment. It emphasizes that the Accrediting Board for Engineering and Technology insists that ethics play an important role in educating young engineers.