

Career Explorations STEM

STEM Education Products for:

6-12 Grades

Higher Education

Workforce Training



science



technology



engineering



math

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Computer Specifications

Minimum System Requirements:

1 GHZ or Faster x86 or 64-bit Processor with SSE2 Instruction Set, 1 GB RAM, CD-ROM Drive, 10 GB of Free Hard Disk Space, 4 MB Video Card, Sound Card with 3.5mm Headphone Jack, 2-USB Ports, Monitor Port, Mouse, 100 Base-T Ethernet Network Port or WiFi, Windows® 10 32-bit (some software requires the use of a DVD-ROM drive), Google Chrome or Microsoft Edge.

Recommended System Requirements for Advanced Software:

Intel i7 or AMD 64-bit Processor with SSE2 Instruction Set, 16 GB or more RAM, 40 GB of Free Hard Disk Space, 512 MB Video Card, Sound Card with 3.5mm Headphone Jack, Speakers, 2-USB Ports, Monitor Port, Mouse, 100 Base-T Ethernet Network Port or WiFi, Windows® 11, 64-bit Operating System, Google Chrome version 107 or Microsoft Edge version 107, and DVD Writer.

DEPCO Products

Blended Learning Units

Interactive learning units for middle schools and high schools that are flexible enough to use in either an instructor-led or student-driven learning environment with the combination of online content delivery and hands-on projects.

STEM and Career Explorations

Career Concepts and Career Experiences: Interactive learning labs and curriculum for middle schools and high schools focused on STEM and career pathway exploration.

Family and Consumer Sciences

Ready 4 Life: Interactive learning labs and curriculum for middle schools and high schools focused on family and consumer related disciplines.

Health Science Education

Health Science Foundations: Online courseware that addresses the National Health Care Skill Standards by the National Consortium for Health Science Education.

Health Science Careers and Pathways: Interactive curriculum developed to address the National Health Care Skill Standards for high schools and post-secondary schools as well as the States' Career Clusters Initiative.

Industrial Automation and Pre-Engineering

IAP: Training units for high school and post-secondary consisting of a skills-based and hands-on, interactive learning system that promotes STEM learning. This program trains tomorrow's engineers with industrial standard equipment and software.

Gears Educational Systems

Trebuchet, Engineering Products, Mobile Robotics Kits, Sensors, Electronic Programming Solutions, and Much More!

DEPCO Studio™ and Professional Development

Online Classroom LMS and Content Delivery System. DEPCO offers CTE credits as well as equipment and software training.

Due to continuously updating our products, items shown may differ from those actually received and content is subject to change without notice.

Standards & Curriculum

Focusing on What Is Important Standards & Competencies

SCANS	<ul style="list-style-type: none"> Secretary's Commission on Achieving Necessary Skills Featured in every DEPCO learning unit
ITEEA	<ul style="list-style-type: none"> International Technology and Engineering Educators Association's Standards for Technological Literacy Met and supported in every DEPCO learning unit
State/Local Competencies	<ul style="list-style-type: none"> DEPCO offers the correlation of DEPCO interactive learning activities to relevant state and local competencies
School-To-Work STEM	<ul style="list-style-type: none"> Help students identify career choices Integration of academics and job skills Smooth transition from school-to-work Science, technology, engineering, and math included in most curricula

Workplace Skills

Key Objective: Help students understand the workplace and gain skills necessary for success.

Students must demonstrate proficiency in workplace standards:

- Effective oral, written, and listening communication skills
- Computation skills and data analysis techniques
- Critical and creative thinking
- Work in team settings
- Marketable skills
- Illustration of how social, organizational, and technological systems function
- Technological literacy for productivity
- Resource management skills



Life Skills

- Reading
- Arithmetic/mathematics
- Writing
- Listening
- Acquiring and evaluating information
- Organizing and maintaining information
- Interpreting and communicating information
- Using computers to process information
- Selecting technology
- Applying technology to tasks
- Maintaining and troubleshooting equipment
- Time
- Money
- Material and facilities
- Human resources
- Understanding complex interrelationships
- Understanding systems
- Monitoring and correcting performance
- Improving or designing systems

Social/Soft Skills

- Participating on teams
- Teaching others new skills
- Servicing clients/customers
- Exercising leadership
- Negotiating
- Working with diversity
- Responsibility
- Sociability
- Self-management
- Integrity/honesty
- Creative thinking
- Problem-solving and decision-making skills
- Understanding how to learn
- Reasoning

These skills are most effectively learned in self-directed, hands-on activities.

Curriculum Framework

Integrated Quality

- Reinforce key academic skills
- Address multiple learning styles
- Allow for authentic assessment

Knowledge Testing

- Pre-Tests, Post-Tests, and Activity Review Questions
- Crossword puzzles and vocabulary matching

Daily Hands-On Activities

- Self-directed curriculum with multimodal activities
- Real-world challenges
- Cooperative learning
- Bonus activities

Instructor Support

- Daily lesson plan
- Easy installation
- Quick access to troubleshooting and technical support
- Answer keys
- Instructor training
- Student profiles

DEPCO Studio

What is DEPCO Studio™ ?

DEPCO Studio is an all-encompassing, online education tool that delivers enriched media content and assessments. DEPCO Studio also aids instructors with lab management needs, such as scheduling, test creation, curriculum creation, and record keeping and reporting.

DEPCO Studio delivers all of DEPCO's curriculum, and it can also deliver customized content and new courses created by instructors.

Minimum Specifications

PC, iOS, and Android Browsers:

Google Chrome, Mozilla Firefox, Safari, Microsoft Edge, or Opera



Bandwidth Usage:

Minimum of 1 MB/sec, recommend at least 3 MB/sec

Windows PC:

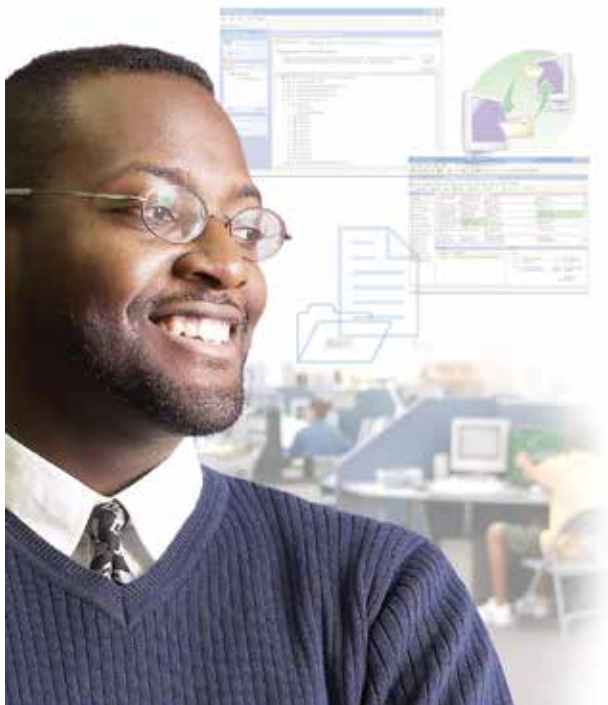
Intel Pentium 4 2.33 GHz, AMD Athlon™ 64 2800+ processor (or equivalent); 512 MB RAM

Mac:

PowerPC G5 1.8 GHz; Intel Core Duo 1.33 GHz or faster; 256 MB RAM

Linux:

Intel Pentium 4 2.33 GHz, AMD Athlon™ 64 2800+ processor (or equivalent); 512 MB RAM



Managing a Lab

Scheduling, grading, and communicating with students is no longer a complicated process. DEPCO Studio assists instructors by simplifying the classroom management experience. Creating a student, class, or course is accomplished with only a few clicks of the mouse. Sending a message to a student or class and announcing new curriculum schedules can easily be accomplished using DEPCO Studio.

Features

Member Information:

- Create/Modify instructors and learners includes:
 - Personal information
 - Contacts
 - Comments

Reports:

- Grade report options includes:
 - Class summary grades
 - Student detail grades
 - Student summary grades

Scheduling:

- Automatic scheduler handles scheduling conflicts and student groupings
- Simple click and drag assigning
- Student schedule highlighting for quick reference

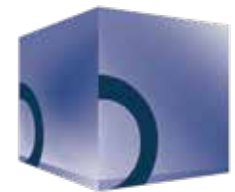
Class Summary	Student	Date
Classroom 101	John Doe	10/10/2017
Classroom 101	Jane Smith	10/10/2017
Classroom 101	Mike Johnson	10/10/2017
Classroom 101	Emily White	10/10/2017
Classroom 101	David Brown	10/10/2017
Classroom 101	Sarah Green	10/10/2017
Classroom 101	Robert Black	10/10/2017
Classroom 101	Laura Pink	10/10/2017
Classroom 101	James Grey	10/10/2017
Classroom 101	Maria Blue	10/10/2017
Classroom 101	Thomas Yellow	10/10/2017
Classroom 101	Michelle Purple	10/10/2017
Classroom 101	Christopher Red	10/10/2017
Classroom 101	Stephanie Orange	10/10/2017



- Schedule Report options includes:
 - Class schedule by rotation
 - Individual student schedule
- Competency and standards correlations

Communication:

- Welcome announcement screen
- Built-in messaging system
- DEPCO announcement screen for instructors



Content Delivery & Curriculum Building

DEPCO Studio incorporates many instructor friendly features that allow students to learn what instructors want emphasized. DEPCO Studio enables instructors to modify current DEPCO curriculum or create their own curriculum for students to view. Instructors completely control the content, tests, and grading scale in DEPCO Studio.

The content delivery system tracks students' progress and logins while guiding them through multimedia curriculum. Instructors can also attach documents, such as manuals and supporting files, to the curriculum for the students to view and download. Because DEPCO Studio is an online platform, multiple students can log in to view the same curriculum independently or simultaneously, and their progress is still tracked.

Features

Test Development:

- Student tests are delivered electronically, graded, and recorded automatically
- Four different test question types:
 - Multiple choice
 - True/False
 - Short answer
 - Essay
- Randomized questions and answers

Curriculum Development:

- Modify DEPCO curriculum
- Upload audio, video, graphics, and text
- Create a variety of examinations
- Preview curriculum
- View available modules
- Add/Remove curriculum in classes

Student Portfolio:

- Student grade viewer allows students to track their own progress
- Student profile editor allows students to enter and update personal information



Content Delivery:

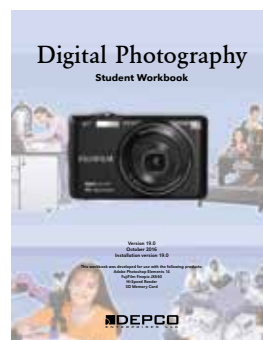
- View seamless multimedia curriculum
- Multiple student login
- Track students' progress with linear tracking
- Take tests with individual logins
- Attach workbooks and support materials
- View grades with secured logins



DEPCO Studio Media Player™ : Interactive Learning

Interactive Curriculum

- Effective, hybrid multimedia curriculum delivery system
- Uses computers and DEPCO Student Workbooks
- Digital videos, animations, and narrated text
- Database-driven, allowing immediate content updates











The Student Workbook

- Concise, hands-on procedures
- Illustrations, screen captures, and photographs
- Available via PDF
- Open access to print copies of guide







Career Cluster Alignment to DEPCO Curricula

Career Clusters provide organized instruction and student experiences based on sixteen broad categories that encompass virtually all occupations from entry to professional levels. The sixteen clusters are:

Career Cluster	Description	DEPCO Curriculum
	The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.	<ul style="list-style-type: none"> • Biotechnology & Genetics • Culinary Arts • Food Science, Dietetics, & Nutrition • Horticulture • Landscape Design • Nutrition and Wellness • Plant Science • PLC Basics
	Careers in designing, planning, managing, building, and maintaining a built environment.	<ul style="list-style-type: none"> • Building Construction • Engineering Structures • Home Maintenance • Landscape Design • Residential Construction • Residential Plumbing • Residential Wiring • SOLIDWORKS®
	Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.	<ul style="list-style-type: none"> • Computer Animation • Digital Audio Production • Digital Photography • Digital Video Production • Graphic Design • Presentation Technology • Programming Basics • Web Page Design
	Business, management, and administration careers encompass planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations. Business, management, and administration career opportunities are available in every sector of the economy.	<ul style="list-style-type: none"> • Career and Community • Computer Animation • Hospitality and Tourism • Finance • Presentation Technology • Web Page Design
	Planning, managing, and providing education, training services, and related learning support services.	<ul style="list-style-type: none"> • Career and Community • Desktop Publishing • Nutrition and Wellness • Finance • Presentation Technology
	Planning services for financial and investment planning, banking, insurance, and business financial management.	<ul style="list-style-type: none"> • Career and Community • Finance
	Executing governmental functions to include: Governance, National Security, Foreign Service, planning, revenue and taxation, regulation, and management and administration at the local, state, and federal levels.	<ul style="list-style-type: none"> • Career and Community • Presentation Technology
	Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.	<ul style="list-style-type: none"> • Biotechnology & Genetics • Food Science, Dietetics, & Nutrition • Nutrition and Wellness

The Career Clusters icons are being used with permission by the  States' Career Clusters Initiative, 2007, www.careerclusters.org.

Career Cluster Alignment to DEPCO Curricula

	<p>Hospitality and tourism encompasses the management, marketing, and operations of restaurants and other food services, lodging, attractions, recreation events, and travel related services.</p>	<ul style="list-style-type: none"> • Culinary Arts • Hospitality and Tourism • Nutrition and Wellness • Web Page Design
	<p>Preparing individuals for employment in career pathways that relate to families and human needs.</p>	<ul style="list-style-type: none"> • Career and Community • Nutrition and Wellness • Finance
	<p>Building linkages in IT occupations framework for entry level, technical, and professional careers related to the design, development, support and management of hardware, software, multimedia, and systems integration services.</p>	<ul style="list-style-type: none"> • Computer Animation • Desktop Publishing • Digital Audio Production • Digital Video Production • Electronics • Programming Basics • SOLIDWORKS® • Web Page Design
	<p>Planning, managing, and providing legal, public safety, protective services, and homeland security including professional and technical support services.</p>	<ul style="list-style-type: none"> • Food Science, Dietetics, & Nutrition • Hospitality and Tourism • Nutrition and Wellness
	<p>Planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance, and manufacturing/process engineering.</p>	<ul style="list-style-type: none"> • CNC Lathe • CNC Mill • Digital Manufacturing • Laser Engraving • Mastercam® • PLC Basics • Precision Measure • SOLIDWORKS®
	<p>Planning, managing, and performing marketing activities to reach organizational objectives.</p>	<ul style="list-style-type: none"> • Computer Animation • Finance • Desktop Publishing • Digital Audio Production • Digital Photography • Digital Video Production • Graphic Design • Presentation Technology • Vinyl Sign Making • Web Page Design
	<p>Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services and research and development services.</p>	<ul style="list-style-type: none"> • Biotechnology & Genetics • Desktop Publishing • Digital Audio Production • Electronics • Engineering Structures • Laser Engraving • Nutrition and Wellness • Plant Science • PLC Basics • Precision Measure • Programming Basics • Robotics Engineering • Rocketry and Space • SOLIDWORKS®
	<p>Planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water and related professional and technical support services such as transportation infrastructure, planning and management, logistics services, mobile equipment, and facility maintenance.</p>	<ul style="list-style-type: none"> • Electronics • Flight Transportation • Four-Stroke Engine • Hospitality and Tourism • Rocketry and Space

Activity Titles

1. Introduction
2. Start-up and Manual Control
3. Soldering
4. Positions
5. Coordinates
6. Programming
7. Edit a Program
8. Programming Speed and Pauses
9. Program for the Mousetrap
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Apply math and measurement to robotics.
- Develop flow charts to describe a program.
- Manually control a robotic arm.
- Program a robot to solve problems.
- Troubleshoot robot programs.

Knowledge

- Types of robots.
- Current uses and advantages of robots.
- Major components of a robotic system.
- History of robots.



DEPCO Module Includes:

Student Workbook, Instructor's Manual, Installation CD, 5 Axis Articulated Robot, Robot Controller and Computer Interface, DEPCO Robot Mounting Board, DEPCO Robot Activity Kit, Robotics Control Software, Ruler, Headphones (2)

Computer and supplies are required and sold separately.

Biotechnology & Genetics

Activity Titles

1. Introduction
2. The Scientific Method
3. Fermentation
4. Enzymes
5. Blood-Typing
6. Genetics
7. The Microscope
8. DNA Extraction
9. Advanced Biotech
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Prepare microscope slides and set up and use a compound microscope.
- Run chromatography strips for chemical identification.
- Interpret outcomes of experiments through reasoning.

Knowledge

- Ethical issues in biotechnology.
- The role of DNA in genetics.
- How enzymes act as catalysts.
- Blood types and blood typing techniques.
- Principles and uses of hydroponics.
- Chemical reactions associated with fermentation.



DEPCO Module Includes:

Student Workbook, Instructor's Manual, Installation CD, Microscope, Electronic Scale, Electronic Timer, Beaker Warmer, 25 ml Graduated Cylinder, 100 ml Graduated Cylinder, 150 ml Beaker, Plant Light House, Scoop, Tweezers, Prepared Slides, Ruler, Scissors, Thermometer, Funnel, Wash Bottle (2), Vial (50), Test Tube Rack, Storage Tray (2), Safety Glasses (2), Lab Coat (2), Microscope Poster, Headphones (2), Biotech and Genetics Supply Kit for 24 Students

Computer and supplies are required and sold separately.

Activity Titles

1. Introduction
2. Side Wall Framing
3. Back Wall Framing with Sheathing
4. Window Wall Framing with Sheathing
5. Door Wall Framing with Sheathing
6. Assemble Walls and Attach to Slab
7. Setting the Trusses
8. Attaching Soffits and Sub-fascia Boards
9. Roof Sheathing
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

This unit has special requirements. Contact DEPCO for more information.

Skills

- Assemble a scale model of an 8 ft x 12 ft storage shed.
- Calculate the number of sheathing sheets needed for a roof deck.
- Demonstrate how a building is anchored to a concrete slab.
- Read and interpret blueprints.

Knowledge

- Proper use of hand tools in the building construction trades.
- Safe working procedures on the construction site.
- Techniques to conserve materials and supplies in frame building.
- Explain truss roof systems.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, DEPCO Building Construction Templates, Building Construction Tool Kit, Pre-Cut Building Kit (4)

Building Construction replenish kits are available and sold separately.

Activity Titles

1. Introduction
2. Job Search Process
3. The Résumé
4. The Interview
5. Interview Critique
6. Balancing Act
7. Community Services
8. Corporation and Communities
9. Volunteering
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Community Service
13. Open-Ended Challenge
14. Careers
15. Internet

This equipment has special requirements. Contact DEPCO for more information.

Skills

- Design a family tree project using software.
- Create a résumé using career software and participate in and critique a mock job interview.
- Demonstrate time management skills by creating a week's schedule using software.
- Write step-by-step directions for a project to be used in a day care.

Knowledge

- Discuss how technology has improved time management skills.
- Explain how services provided by community organizations assist the working family.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, ResumeMaker® Professional Software, Time Management Software, Family Tree Software, Digital Camcorder, Hole Punch, Scissors, Shoe Template, Shoe Laces, Headphones (2), Career and Community Supply Kit for 100 Students

Computer, printer, and supplies are required and sold separately.

Activity Titles

1. Introduction
2. Machine a Sample Part
3. NC Code and Verification
4. Coordinate Positioning
5. Generate NC Code
6. Chess Pawn Project
7. Machine from NC Code
8. Screwdriver Project I
9. Screwdriver Project II
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

This equipment has special requirements. Contact DEPCO for more information.

Skills

- Safely set up and operate a CNC lathe.
- Correctly key in and verify numerical codes.
- Locate position coordinates.
- Generate original NC programs.
- Verify numerical codes.

Knowledge

- Use relative and absolute coordinate positioning.
- Use accurate tool paths.
- Identify commonly used numerical codes.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, Lathe Machinist Kit, CNC Turning Center (Lathe), Lathe Control Software, Screwdriver Drilling Fixture, Heat Resistant Gloves, Utility Lighter, Cordless Drill, Drill Bit, Screwdriver Drill Fixture, T-Allen Wrench Driver, Safety Glasses (2), Headphones (2), CNC Lathe Supply Kit for 24 Students

Computer and supplies are required and sold separately.

Activity Titles

1. Introduction
2. Machine a Sample Part
3. NC Code and Verification
4. Coordinate Positioning
5. NC Code Translation
6. Cube Project
7. Mill Project I
8. Mill Project II
9. Mill Project III
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Describe the importance of numerical codes in modern manufacturing.
- Set up and verify numerical codes.
- Machine sample parts.
- Translate numerical codes.
- Write original numerical codes.

Knowledge

- Use relative and absolute coordinate positioning.
- Describe the use and necessity of accurate toolpaths.
- Identify commonly used numerical codes.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, CNC Milling Center, Mill Machinist Kit, Mill Control Software, T-Allen Wrench Driver, Safety Glasses (2), Headphones (2), CNC Mill Supply Kit for 24 Students

Computer and supplies are required and sold separately.

Activity Titles

1. Introduction
2. Animation Principles
3. Animation Graphics and Sound
4. Tween Creation
5. Slideshow Design
6. Slideshow Interactivity
7. Web Page Design
8. Animated Menu Code
9. Responsive Web Design
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Create responsive buttons for a slideshow.
- Import sounds from an external library.
- Set up a menu bar for a mobile app.
- Develop animations using all forms of tweening.
- Create a frame-by-frame animation.

Knowledge

- Identify audio and video file formats.
- Identify the three principles of movement.
- Discuss image optimization techniques.
- Discuss the importance of responsive web design.
- Discuss the evolution of animation.

**DEPCO Unit Includes:**

Student Workbook, Instructor's Manual, Installation CD, Headphones (2)

Adobe Animate software is not included. Computer and supplies are required and sold separately.

Activity Titles

1. Introduction
2. Weighing and Measuring
3. Safety and Sanitation
4. Culinary Equipment
5. Science in the Kitchen
6. Kitchen Math
7. Menu Planning
8. Food Presentation
9. Place Settings
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. FCCLA®
14. Careers
15. Internet

Skills

- Follow proper food handling and safety techniques.
- Demonstrate how to weigh and measure ingredients.
- Demonstrate proper use of culinary equipment.

Knowledge

- Discuss different cooking methods.
- Identify various types of culinary equipment.
- Discuss how science is used in the kitchen.

**DEPCO Module Includes:**

Student Workbook, Instructor's Manual, Installation CD, Can Opener, Measuring Spoons, Cloth Napkin (2), Small Plastic Spatula (2), Placemat (2), Skillet (2), Garnish Tool Set, Apron (2), Glo Germ Black Light, Soup Bowl (2), Plastic Doily (2), Seasoning Shaker, Paring Knife (2), Dish Towel (2), Scrub Brush, Ladle, Measuring Cup, Vegetable Peeler, Table Knife (2), Table Spoon (2), Small Food Processor, Mixing Bowl Set, Measuring Cups, Glass (2), Spatula, Hot Pad (2), Cheese Grater, Sauce Pan, 1/2 Cup Container (2), Crepe Maker, Chopping Knife, Cutting Board, Bottle (2), Dish Cloth (2), Scrubber, Meat Thermometer, Small Whisk, Fork (2), Teaspoon (2), Container (2), Dinner Plate (2), Salad Plate (2), Mixing Spoon, Strainer, Convection Oven, Buffet Range, Headphones (2), Module Box (4), Culinary Arts Supply Kit for 100 Students

Computer and supplies are required and sold separately. Requirements: food, water supply, refrigerator.

Activity Titles

1. Introduction
2. Graphic Basics
3. Text
4. Application Styles
5. Master Pages
6. Create a Brochure
7. Book Multiple Documents
8. Interactive Layout
9. PDF Settings
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Use proper page design techniques.
- Produce newsletters, brochures, and reports.
- Lay out pages for newsletters and brochures.
- Combine text and graphics to produce a finished document.
- Demonstrate harmony, balance, proportion, and emphasis.

Knowledge

- Explain the importance of desktop publishing.
- Identify desktop publishing careers.
- Identify various printing methods and materials used in each method.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, Headphones (2)

Adobe InDesign software is not included. Computer, printer, and supplies are required and sold separately.

Digital Audio Production

Activity Titles

1. Introduction
2. Sampling
3. Editing
4. Delivery
5. Mixing
6. Writing
7. Recording
8. Editing II
9. Polishing
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Demonstrate the digital audio technique of mixing.
- Exhibit effective pronunciation and dictation.
- Operate state-of-the-art digital audio equipment.
- Efficiently complete the tasks of recording, editing, and mixing.

Knowledge

- Improve writing skills and techniques.
- Explain how technological advances have affected audio production.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, Audio Production Software, FRESH - The Music Library CD, The Mix Signature Collection - Corporate Mix 1 CD, Microphone, CD Burner, Headphones (2)

Computer and supplies are required and sold separately.

Activity Titles

1. Introduction
2. Camera Basics
3. Camera Operations
4. Color
5. Lighting
6. Artificial Lighting
7. Composition
8. Filters and Effects
9. Enhancement
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Illustrate special effects on digital images.
- Manipulate and save graphic files.
- Print photographs on photo paper.
- Use photographic enhancement strategies.

Knowledge

- Demonstrate proper camera techniques.
- Explain the technology of digital imaging.
- Explain the uses and advantages of a digital camera.
- Demonstrate a variety of composition techniques.

**DEPCO Unit Includes:**

Student Workbook, Instructor's Manual, Installation CD, Digital Camera, Camera Tripod, Photolight and Stand, Digital Camera AC Power Adapter, Photo Editing Software, Hi-Speed Reader, SD Memory Card, Headphones (2)

Computer, printer, and supplies are required and sold separately.

Activity Titles

1. Introduction
2. Camera Shots
3. Audio and Editing
4. Storyboarding and Scripting
5. Premiere Basics
6. Composition
7. Storytelling I
8. Storytelling II
9. Budgeting
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Use a camcorder and practice camcorder basics.
- Download videos to the computer from the camcorder.
- Practice filming various camera angles and shots.
- Use the computer program to properly edit and export videos for the Internet and author a DVD.

Knowledge

- Discuss the history of film and storytelling.
- Identify various film techniques.
- Explain the use of audio techniques in film.
- Create and use various storyboards to produce short films.

**DEPCO Unit Includes:**

Student Workbook, Instructor's Manual, Installation CD, Capturing and Editing Software, Digital Camcorder and Accessories, DVD Burner, Headphones (2)

Computer and supplies are required and sold separately.

Digital Video Production Pro (MP6450) requires Adobe Premiere Pro CC and is not supplied by DEPCO.

Activity Titles

1. Introduction
2. Schematics
3. Resistors and Photocells
4. Multimeter
5. Continuity
6. Capacitors and Inductors
7. Alarm Systems
8. Fail-Safe Circuits
9. Intro to Circuit Scribe
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Read a schematic drawing of an electrical circuit.
- Use proper safety procedures while working with electricity.
- Test capacitors and inductors in an electrical circuit.
- Use a digital multimeter to check for continuity in a circuit.

Knowledge

- Explain Ohm's law and some of its applications.
- Explain the graphic symbols that are used to represent electrical components.
- Explain the various types of transistors and their applications.
- Explain voltage and how it is measured.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, Electronics Trainer, Digital Multimeter, Electronics Patch Cable Set, Edison Software, Circuit Scribe Super Kit, Elenco Electronics Playground Kit, Headphones (2).

Computer is required and sold separately.

Embroidery

Activity Titles

1. Introduction
2. Digitizing
3. History of Embroidery
4. The Entrepreneur
5. The Embroidery Business
6. Pricing the Products
7. Finding a Niche
8. The School Market
9. Fundraising
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Create text and graphics for embroidery.
- Troubleshoot embroidery challenges.
- Change thread colors.
- Operate an embroidery machine.
- Digitize graphics for production.

Knowledge

- Uses for embroidery.
- Basic layout techniques.
- Cost analysis calculations.
- Working components of equipment.
- Understanding embroidery processes.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, Embroidery Machine, Embroidery Machine Control and Design Software, Embroidery Hoops and Accessories, Embroidery Tool Kit, Embroidery Supply Kit for 24 Students, Headphones (2).

Computer is required and sold separately.

Activity Titles

1. Introduction
2. Design and Test Bridge
3. Bridge Design
4. Design and Construct Sides
5. Building the Top Section
6. Building the Base Section
7. Start Assembly of the Bridge
8. Finish Assembly of the Bridge
9. Evolution of Bridge Design
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Design a bridge using correct procedures.
- Build and test a model bridge.
- Illustrate proper use of selected tools.

Knowledge

- Identify components of bridge construction.
- Practice safe tool procedures.
- Explain the features of correct bridge construction.
- Explain the proper procedures for testing bridges.

**DEPCO Unit Includes:**

Student Workbook, Instructor's Manual, Installation CD, Bridge Building Software, Electronic Scale (grams), Weight Set, Stick Trimmer (2), DEPCO Engineering Structure Tester, DEPCO Engineering Structures Student Workpad (8), Measuring Tools, Digital Scale (50 lbs.), Headphones (2), Engineering Structures Supply Kit for 24 Students

Computer and supplies are required and sold separately.

Activity Titles

1. Introduction
2. Personal Banking
3. Personal Investment
4. Business Types
5. Business Decisions and Ethics
6. Business Finance
7. Business Statements & Economic Systems
8. Accounting Principles
9. Insurance Industry
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Create and maintain personal finances using computer software.
- Use computer software to develop business statements and charts.
- Track profit/loss of a product.
- Complete banking and investment forms.

Knowledge

- Explain the importance of creating a budget and financial planning.
- Identify the risks involved with credit.
- Recognize the challenges facing business decisions.
- Identify the importance of insurance and careers in the insurance industry.

**DEPCO Unit Includes:**

Student Workbook, Instructor's Manual, Installation CD, Financial/Budgeting Computer Software, Headphones (2)

Computer, printer, and supplies are required and sold separately.

Activity Titles

1. Introduction
2. Pre-Flight and First Flight
3. Turns
4. Headings and Angle of Attack
5. Taking Off
6. The Landing
7. Flying a Pattern
8. Winds, Stalls, and Spins
9. Problem Landing
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Execute successful takeoffs and landings.
- Use throttle and control surfaces correctly.
- Demonstrate navigational skills.
- Achieve and maintain designated altitudes and headings.
- Adjust course and altitude based on instrument readings.

Knowledge

- Identify basic aerodynamic concepts.
- Explain the importance of time, distance, and fuel consumption.
- Identify basic airport procedures for light aircraft.
- Demonstrate the proper interpretation of aviation maps.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, Flight Yoke, Rudder Pedals, Flight Simulation Software, Headphones (2)

Computer is required and sold separately.

Food Science, Dietetics, & Nutrition

Activity Titles

1. Introduction
2. Food Safety
3. Food Preservation
4. Food Science - A Career
5. The Future of Food
6. Nutrition
7. Food Labels
8. Dietetics
9. What Does It All Mean?
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Observe and record the growth of microorganisms.
- Use software designed to analyze an individual's dietary intake.
- Demonstrate the process of dehydration.
- Follow food safety guidelines.

Knowledge

- Explain the importance of food safety.
- Identify methods of food preservation.
- Discuss and evaluate the nutritional quality of certain foods and principles.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, Incubator, Dehydrator, Dehydrator Tray Set, Paring Knife (2), Cutting Board (2), Diet Software, Crop Identification Kit, Encyclopedia Software, Plastic Container, Measuring Cup Set, Measuring Spoon Set, Electronic Scale, Lab Coat (2), Safety Glasses (2), Scissors, Plastic Mixing Bowl, Thermometer, Scrub Brush, Plastic Spoon, Headphones (2), Module Box (2), Food Science, Dietetics, and Nutrition Supply Kit for 100 Students

Computer is required and sold separately. Requirements: food, water supply, refrigerator/freezer.



Activity Titles

1. Introduction
2. Cylinder Assembly and Piston
3. Piston, Crank, and Cam
4. Ignition Systems
5. Cylinder Head and Spark Plug
6. Intake, Exhaust, and Carburetion
7. Governor and Throttle Assembly
8. Disassembly
9. Disassembly and Lubrication
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Assemble a four-stroke engine piston and identify its components.
- Describe the function of a piston.
- Assemble the crankshaft, camshaft, and flywheel of a four-stroke engine.
- Illustrate the four-stroke sequence in the engine.



Knowledge

- Explain the basic internal operation of a four-stroke engine.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, Organizer Storage Tray (4), Small Engine Workstation, 3 in. Bench Vise, Tool Organizer Tray, Briggs & Stratton Overhead Valve Engine, Tool Chest, Headphones (2)

Computer is required and sold separately.

Activity Titles

1. Introduction
2. Basic Tools
3. Working With Graphics
4. Color
5. Text and Text Effects
6. Special Effects
7. Importing and Editing
8. Applications
9. Design Completion
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

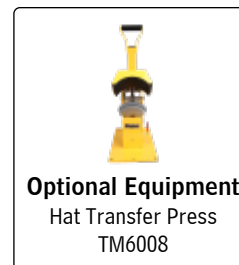
Skills

- Draw basic shapes and objects on the computer.
- Modify clip art files to meet a specific need.
- Operate a thermal transfer machine.
- Create special effects with the graphics program.
- Create, edit, and manipulate text on the computer.



Knowledge

- Explain the uses and purposes of graphic design.
- Explain color theory.
- Demonstrate basic layout techniques.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, CoreIDRAW® Software, T-Shirt Transfer Press, Headphones (2)

Computer, printer, and supplies are required and sold separately.

Activity Titles

1. Introduction
2. Electricity
3. Lighting
4. Wiring
5. Technological Trends
6. Household Plumbing
7. CPVC and Fixtures
8. Plumbing Pipes
9. Valves
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Gain general knowledge in minor home repairs.
- Install electrical wiring to connect switches, outlets, and light fixtures.
- Install plumbing pipes to connect a faucet, water heater, and outside faucet.

Knowledge

- Explain how electricity and plumbing work.
- Identify how technology affects residential wiring.
- Identify and use terminology related to residential wiring and plumbing.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, DEPCO Home Maintenance Plumbing Panel and Components, DEPCO Home Maintenance Wiring Panel and Components, DEPCO Home Maintenance Plumbing and Wiring Tool Kit, Headphones (2)

Computer is required and sold separately.

Horticulture

Activity Titles

1. Introduction
2. Greenhouse Operations
3. Terrariums
4. Turf Management
5. Landscape Design
6. Floriculture
7. Floral Design
8. Forestry
9. Pesticide Safety
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Create a mold terrarium to examine a contained ecosystem.
- Implement creativity to produce and design a floral centerpiece.
- Recycle old pieces of paper to create a handmade piece of paper.

Knowledge

- Identify various grass samples using the computer program.
- Evaluate the skills that are needed to run a greenhouse business.
- Recognize and use terminology related to horticulture.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, Grass Identification Chart, Storage Container, Recycled Paper Kit, Blender, Silk Flowers, Vase (4), GrowEase Seed Starter Kit, Tray, Tweezers, Measuring Cup Set, Plastic Tub, Sponges, Headphones (2), Floral Arrangement Kit (2), Horticulture Supply Kit for 100 Students

Computer and supplies are required and sold separately. Requirements: water supply.

Activity Titles

1. Introduction
2. Tourism
3. Lodging
4. Safety and Health Regulations
5. Resorts
6. Lodging Responsibilities
7. Lodging Reports
8. Travel Agents
9. Travel
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Discuss the history of hospitality and tourism.
- Create a fruit basket using an orange.
- Manipulate industry standard hotel management software.
- Discuss and calculate various exchange rates.

Knowledge

- Discuss the statistics and projected growth of the hospitality and tourism industry.
- Discuss various segments of the hospitality and tourism industry.
- Identify the many careers associated with the hospitality and tourism industry.

**DEPCO Unit Includes:**

Student Workbook, Instructor's Manual, Installation CD, Laminator, Paring Knife, Dinner Spoon, Atlas, Cutting Board, Digital Camera, Hi-Speed Reader, SD Memory Card, Module Box, Hospitality and Tourism Supply Kit for 100 Students, KW Hotel Free, Vacation Planner, Headphones (2).

Computer, printer, and supplies are required and sold separately.

Activity Titles

1. Introduction
2. Landscape Basics
3. Plants and Materials
4. Lighting and Text
5. Complete the Design
6. Landscape Planner
7. Complete the Drawing
8. Landscape Costs
9. Customer Presentation
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Demonstrate an understanding of design principles.
- Apply design principles to a landscape design.
- Use math and record keeping to complete a bill of materials.

Knowledge

- Demonstrate an understanding of design principles and applications.
- Use drawing tools to create a preliminary design.
- Use the program to create a 3-D landscape design.
- Research careers using landscape design skills.

**DEPCO Unit Includes:**

Student Workbook, Instructor's Manual, Installation CD, Landscape Design Software, Drafting Tools, Mechanical Pencils, Headphones (2)

Computer, printer, and supplies are required and sold separately.

Activity Titles

1. Introduction
2. Manipulating Shapes
3. Text Tool Features
4. Creating a Dog Tag I
5. Creating a Dog Tag II
6. Engraving a Pencil
7. Engraving a Shower Board
8. Engraving a Shower Board: Other Options
9. Artistic Media Tool Features
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge: Extruding
13. Challenge: Blending and Applying Drop Shadows
14. Challenge: Lens Special Effect
15. Challenge: Importing and Resizing

Skills

- Demonstrate the proper working procedure for a laser engraver.
- Create an engraving on a shower board.
- Create an engraving on a dog tag.

Knowledge

- Demonstrate an understanding of CorelDRAW basics.
- Explain how to draw perfect shapes.
- Discuss and research price quotes.



DEPCO Unit Includes:

Student Activity Guide, Document CD, CorelDRAW Software, Dimensioned Pencil Holder, Shower Board 3.5 in. x 3.5 in. (24), Shower Board 4 in. x 4 in. (24), Shower Board 4.5 in. x 4.5 in. (24), Shower Board 5 in. x 5 in. (24), Soft Wooden Pencil (36), Metal Military-Shaped Dog Tag (48)

Computer and engraver are required and sold separately.

Mastercam®

Activity Titles

1. Introduction
2. Tools of Mastercam®
3. Additional Tools
4. Splines
5. Dimensioning
6. Production Techniques
7. Toolpaths
8. Speeds and Feeds
9. Design to Order
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Demonstrate the ability to effectively manipulate an industry-standard program.
- Analyze completed drawings to check for errors.
- Create layers.

Knowledge

- Demonstrate a working knowledge of coordinate systems, both Cartesian and polar.
- Explain how efficiency ratings are used and determined.
- Identify the format for which working drawings must be designed.
- Explain the design process from idea to product.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, Mastercam® Software, Timer/Stopwatch, Headphones (2)

Computer, printer, and supplies are required and sold separately.

Activity Titles

1. Introduction
2. Living a Healthy Lifestyle
3. Heart Rate
4. Temperature and Blood Pressure
5. Nutrition
6. Convenient vs. Healthy
7. Exercise
8. Establishing a Routine
9. Substance Abuse
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Measure body temperature at rest and after activity.
- Measure blood pressure.
- Measure body fat.
- Identify different foods and know where they belong on the MyPlate.

Knowledge

- Identify systolic and diastolic blood pressure readings.
- Explain how various foods affect our bodies in different ways.

**DEPCO Unit Includes:**

Student Workbook, Instructor's Manual, Installation CD, Blood Pressure and Pulse Monitor, Instant Thermometer, Stopwatch, Treadmill, Body Fat Analyzer, MyPlate Display and Food Items, Measuring Tape, Ruler, Calculator, Bowl, Measuring Cups, Measuring Spoons, LMS Alcohol & Other Drugs Software, Spoon, Headphones (2), Module Box

Computer is required and sold separately.

Activity Titles

1. Introduction
2. Plant Anatomy
3. Plant Characteristics and Germination
4. Plant Nutrition
5. Plant Processes
6. Plant Propagation
7. Survival of a Species
8. Plant Classification and Identification
9. Plant Uses
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Set up and complete lab experiments.
- Identify and describe plant structures, tissue systems, and organs.
- Dissect and identify seeds.
- Classify plants using Linnaeus' system.

Knowledge

- Explain plant life processes: respiration, transpiration, photosynthesis, absorption, and translocation.
- Explain genetics and heredity in plants.
- Describe plant nutrition and fertilization.
- Identify ecological systems and food chains.

**DEPCO Unit Includes:**

Student Workbook, Instructor's Manual, Installation CD, Lab Coat (2), Calculator, Graduated Cylinders, Beaker (6), Grow Box (18), Wash Bottle (18), Scissors, Hand Lens, Tweezers, Scalpel (2), Cutting Boards, Measuring Spoons, Plastic Funnel (2), Ruler, Timer, Test Tube (36) and Rack, Kevlar Gloves (2), Headphones (2), Plant Science Supply Kit for 24 Students

Computer and supplies are required and sold separately. Requirements: water supply.

Activity Titles

1. Introduction to PLCs
2. Electrical Circuits
3. Circuit Logic
4. Ladder Logic
5. Keypad Programming
6. PLC Programming
7. Edit and Monitor Programs
8. Timers
9. Latching Relays
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Design and construct electrical circuits that represent Boolean equations.
- Use programming software to enter a ladder logic program into the trainer.
- Wire a PICO controller timing relay.
- Design and construct examples of series and parallel circuits.
- Create a circuit diagram.

Knowledge

- Describe the current flow in both series and parallel circuits.
- Describe applications and advantages of using PLCs instead of hardwired circuits.
- Construct input/output circuits connecting the PLC lights and switches with patch cords.
- Explain how AND, OR, and NOT circuit logic is represented in a ladder logic diagram.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, DEPCO Suitcase PLC, Patch Cords, Adapter Cable, Safety Glasses (2), and Headphones (2).

Computer is required and sold separately.

Precision Measure

Activity Titles

1. Introduction
2. Decimal Rule
3. Metric Measure
4. Steel Tape
5. Precision Measure
6. Micrometer
7. Thumb Lock Vernier Caliper
8. Dial Indicator Vernier Caliper
9. Micrometer Depth Gauge
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Use and read a variety of industry-standard measuring tools.
- Calculate measurements within 0.001 in. on machined objects.
- Demonstrate proper use of a micrometer.
- Calculate depth measurements.
- Demonstrate one, two, and three place decimal measurements.

Knowledge

- Explain the importance of linear measurement.
- Identify the components of precision measure tools and practices.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, Precision Measure Block #1, Precision Measure Block #2, Precision Measure Block #3, Starrett® 6 in. Vernier Caliper, Starrett® 6 in. Dial Caliper, Starrett® 12 in. Steel Rule, Starrett® 12 ft Tape Measure, Starrett® Depth Micrometer, Starrett® Micrometer, Custom Vacuum Formed Organizer Tray, Headphones (2)

Computer is required and sold separately.

Activity Titles

1. Introduction
2. Text and Graphics
3. Finishing Touches
4. Presentation Skills
5. Scientific Method
6. STEM Education
7. Social Networks
8. Technology Lab I
9. Technology Lab II
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Create various PowerPoint presentations over various topics.
- Use all of the features in PowerPoint.
- Present and print presentations.

Knowledge

- Discuss various presentation methods and presentation aids.
- Explain how the scientific method is used in everyday activities.
- Explain why STEM education is important.
- Discuss the various ways to identify and prevent cyberbullying.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, External CD Burner, Digital Camera, Hi-Speed Reader, SD Memory Card, CD Authoring Software, Headphones (2), Presentation Technology Supply Kit for 100 Students

Computer and supplies are required and sold separately.

Activity Titles

1. Introduction
2. Python Basics
3. Functions
4. Decision Statements
5. Loops
6. Sequences
7. Object-Oriented Programming
8. GUI Programming
9. The Internet and the World Wide Web
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Create an original program using either a visual or textual programming language.
- Complete the five steps of the program development cycle.
- Construct an original graphical user interface.
- Demonstrate the use of comparison and logical operators.

Knowledge

- Discuss the use of arguments and parameters.
- Explain the concept of modularization.
- Explain the fetch-decode-execute cycle.
- Discuss types of computer components.
- Discuss top-down design.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, Kano Computer Kit, Headphones (2)

Computer and supplies are required and sold separately.

Activity Titles

1. Introduction
2. Design Drawings
3. Mock-Up
4. Mock-Up Analysis
5. Layout
6. Carving I
7. Carving II
8. Carving III
9. Assembly
10. Post-Test and Evaluation
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Generate drawings for development of a product.
- Read specifications correctly.
- Properly use basic woodworking and measurement tools.
- Develop an end product based on design and testing.

Knowledge

- Explain the basic steps of the design process.
- Explain the importance of drawings in product development.
- Explain the major factors that affect performance.



DEPCO Module Includes:

Student Workbook, Instructor's Manual, Installation CD, DEPCO AeroWedge, Wind Generator, Drill Fixture, Styrofoam Cutter, Band Saw, Vise, Cordless Power Drill, Dust Buster, Electronic Scale (grams), Drawing Templates, Drawing Tool Set, Cutting Tools, Organizer Trays (2), CO₂ Car Supply Kit for 24 Students

Computer and supplies are required and sold separately.

Residential Construction

Activity Titles

1. Introduction
2. Foundation
3. Platform Framing I
4. Platform Framing II
5. Exterior Walls I
6. Exterior Walls II
7. Interior Walls
8. Roof System
9. Roof Decking
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Construct platform box sills.
- Demonstrate proper layout of soffits and trusses.
- Use proper techniques for rough framing.
- Assemble walls, trusses, rafters, and roofs.

Knowledge

- Explain the importance of residential construction.
- Describe platform construction.
- Practice safe construction procedures.
- Identify functions and kinds of construction tools and materials.



DEPCO Module Includes:

Student Workbook, Instructor's Manual, Installation CD, DEPCO Residential Construction Workcenter, Residential Construction Tool Set, Bandsaw, Building Foundation (5), Residential Building Kit (5), Nail Gun, Cordless Power Drill, Safety Glasses (2)

Supplies are required and sold separately.

Activity Titles

1. Introduction
2. Lavatory Faucet
3. Kitchen Sink Faucet
4. Wastewater Removal
5. Showerhead and Faucet
6. Water Supply to the Bathroom
7. Vents, Cleanouts, and Outside Faucets
8. Bathroom Tub Wastewater Removal
9. Service Entrance
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Install bathroom shower fixtures and drain.
- Plumb a kitchen faucet.
- Properly plumb valves.
- Diagram a home's plumbing.
- Install a drain line in a home.

Knowledge

- Identify common plumbing components.
- Identify pipe types and sizes.
- Practice safe residential plumbing procedures.
- Demonstrate proper installation of clean water lines and wastewater lines.

**DEPCO Module Includes:**

Student Activity Guide, DEPCO Residential Plumbing Workcenter, DEPCO Student Plumbing Panel, Residential Plumbing Component Kit, Residential Plumbing Tool Kit

Activity Titles

1. Introduction
2. Service Entrance, Ground Rod, and Service Panel
3. Circuit Breakers and Junction Boxes
4. Convenience Outlet
5. Ceiling Lights and Wall Switch
6. Wiring a Second Junction Box
7. 220-Volt Outlet
8. Wiring a Doorbell
9. Wiring a Three-Way Switch
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Wire a light switch and a convenience outlet.
- Install a doorbell.
- Properly wire electrical components.
- Diagram the wiring in a home.
- Ground wiring in a home.

Knowledge

- Identify different kinds of electrical components.
- Demonstrate proper mounting of electrical components.
- Demonstrate safe residential wiring procedures.
- Demonstrate proper installation of an electrical panel.

**DEPCO Module Includes:**

Student Activity Guide, DEPCO Residential Wiring Workcenter, DEPCO Student Wiring Panel, Pre-Cut Wiring Kit, Instructor Wiring Supply Packet, Electrical Tool Kit, Residential Wiring Component Kit

Activity Titles

1. Introduction
2. SOLIDWORKS
3. SOLIDWORKS - Assembly
4. Drive Train
5. Construct the Chassis
6. Introduction to Pneumatics
7. Pneumatics
8. Add the Controller Components
9. Robot Operation
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Construct a robot.
- Read, interpret, and construct CAD drawings.
- Test robotic mechanisms.
- Develop problem-solving skills.

Knowledge

- Identify common components of pneumatic systems.
- Explain engineering design principles.
- Explain radio control system usage.
- Describe robotic components and usage.
- Demonstrate knowledge of physics.
- Explain electronic wiring and implementation.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, SOLIDWORKS® Software, Gears IDS kit, Headphones (2)

Computer is required and sold separately.

Rocketry & Space

Activity Titles

1. Introduction
2. Newton's Law
3. Single Stage Design
4. Two Stage Design
5. Design Your Rocket
6. Rocket Controls
7. Preflight Activities
8. Rocket Assembly
9. RockSim Software
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Measure distances, lengths, and dimensions.
- Construct a rocket.
- Read and interpret drawings and plans.
- Compute average distances traveled by a rocket.

Knowledge

- Identify common parts and features of rockets.
- Describe Newton's Laws of Motion.
- Explain the effect of center of mass and center of pressure on rocket flight.
- Identify factors in rocket performance.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, Rocket Launch Controller, Rocket Launch Pad, Tape Measure - 25 ft, Safety Glasses (2), Cutting Board, Rocket Builders Marking Guide, Fin Placement Disc, Organizer Tray, Rocket Simulation Software, Headphones (2), Rocketry and Space Supply Kit for 24 Students

Computer, printer, and supplies are required and sold separately.

Activity Titles

1. Introduction
2. Constraints and Dimensioning
3. Create Solids
4. 2-D Drawing
5. Multiple Extrusions
6. Advanced Sketching
7. Pattern Sketch Geometry
8. Create Parts
9. Assembly and Animation
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Create sketches and solid models.
- Assemble components.
- Convert from 2-D to 3-D.
- Create an animation of an assembly.
- Apply dimensions and annotations.

Knowledge

- Demonstrate basic knowledge of SOLIDWORKS®.
- Describe design principles.
- Discuss how SOLIDWORKS® is used in industry.

**DEPCO Unit Includes:**

Student Workbook, Instructor's Manual, Installation CD, SOLIDWORKS® Education Edition Software, Headphones (2)

Computer is required and sold separately.

Activity Titles

1. Introduction
2. Mass, Gravity, Weight, and Density
3. Work, Potential Energy, and Kinetic Energy
4. Trebuchet Construction
5. Engineering Models
6. Trebuchet Mechanics
7. Engineering Design
8. Analyzing the Trebuchet I
9. Analyzing the Trebuchet II
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Explain how mass, weight, and density are measured.
- Explain engineering design formulas.
- Build the trebuchet.

Knowledge

- Determine if the axle can handle the load from the trebuchet system.
- Define potential and kinetic energy.
- Use formulas to determine the performance of trebuchet models.

**DEPCO Unit Includes:**

Student Workbook, Instructor's Manual, Installation CD, Construction Manual, Trebuchet Kit, Toolbox, SOLIDWORKS® Education Edition Software, Hardware Kit, Safety Glasses

Additional kits available in quantities of five and ten (picture shows ten kits).

Activity Titles

1. Introduction
2. Sign Design
3. The Sign Business
4. The Product
5. The Entrepreneur
6. The Market
7. Financing the Business
8. Managing the Business
9. Successful Business
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Create an original, responsive web page.
- Add text and images to HTML documents.
- Demonstrate the use of media queries.
- Calculate AdRank and actual cost-per-click.

Knowledge

- Discuss the role of signs in our society.
- Explain basic elements of design.
- Explain the entrepreneurial aspects of a sign shop.
- Discuss the cost of materials.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, CorelDRAW Software, Vinyl Sign Making Tools, Organizer Storage Tray, Vinyl Sign Artwork CD, Headphones (2), Vinyl Sign Making Supply Kit for 24 Students, Roland CAMM-1 GS2-24 Desktop Vinyl Cutter, Roland CutStudio Software.

Computer and supplies are required and sold separately.

Web Page Design

Activity Titles

1. Introduction
2. The Design Process
3. HTML5
4. CSS
5. Web Content
6. Responsive Web Design
7. CSS3 Properties
8. Search Engine Optimization
9. Email Marketing
10. Post-Test and Wrap-Up
11. Bonus Activities
12. Challenge
13. Open-Ended Challenge
14. Careers
15. Internet

Skills

- Complete site setup for an HTML file.
- Complete setup for a CSS file.
- Create designs that encompass color schemes.
- Use graphical placement ideas to create a web page.

Knowledge

- Explain the use of web analytics.
- Explain the HTML5 basic file structure.
- Discuss the importance of responsive web design.



DEPCO Unit Includes:

Student Workbook, Instructor's Manual, Installation CD, Headphones (2)

Adobe Dreamweaver software is not included. Computer is required and sold separately.

Career Pathways

The *Health Science Career Pathways* Program is a series of 14 units of study designed to specifically address the *National Health Care Skill Standards* and the *States' Career Clusters Initiative*.

Each *Career Pathway Unit (CPU)* offers over 15 hours of content and hands-on, skill-building activities. Lessons and computer-based assessments are presented with a simple multimedia interface. All necessary equipment, materials, consumable supplies, software, and tools are included.

The Cart

Each Health Science CPU includes a Skills Cart™ that provides a portable workspace and storage for all of the tools, equipment, and supplies required to complete the courseware's hands-on activities. These rugged units can be stored until needed or placed in dedicated stations within a health science lab.



Career Pathway Units:

- Biomedical Applications
- Cardiac Diagnostics
- Clinical Laboratory Science
- Complementary & Alternative Medicine
- Dental Practices
- First Aid & CPR
- Forensic Science
- Healthcare Data Management
- Imaging Diagnostics
- Ophthalmology
- Pathogens & Disease
- Pharmacology
- Sports Medicine
- Veterinary Science



Take your classes to the next level

Foster a digital game-based learning environment

Capture students' attention and motivation

Promote effective teamwork and communication

Apply theoretical knowledge in practice through life-like scenarios



Virtual Patients Simulation

Solve scenarios in the classroom or assign them to students as homework
Ready for in-person, online, and hybrid learning

Accessible on laptops, tablets, and mobile devices

Online training and guidance for teachers
Available in 8 languages

BODY INTERACT™
VIRTUAL PATIENTS

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Gears Educational Systems



Trebuchet Kit

The Gears Trebuchet is a STEM-based program that provides an organized structure in which students acquire engineering skills and competencies through the design, construction, refinement, and competitive use of a model trebuchet. Students will use the discoveries of Pythagoras, Galileo, and Newton to help them build their trebuchets. Students will also use SOLIDWORKS to model and test their designs.

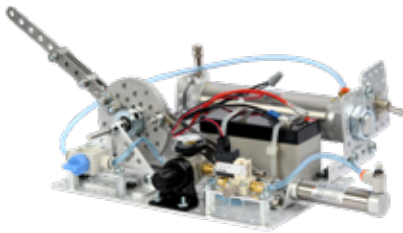
Gears IDS/ Trebuchet Combo Kit
Includes hardware to build Gears IDS or Trebuchet



Shown with the included PS2 controller, HCM, battery, and Pneumatic Trainer

Gears IDS

The Gears Invention & Design System (IDS) is more than a robust mechanical platform for classroom and outdoor robotics; it can be used to demonstrate physical science and pre-engineering principles as well as various math concepts. Students learn about computer aided design (CAD) by creating models in SOLIDWORKS and then using the Gears IDS to test and build the model. While using this platform, students learn about the science behind how mobile robotics work as well as the history of technological achievement.



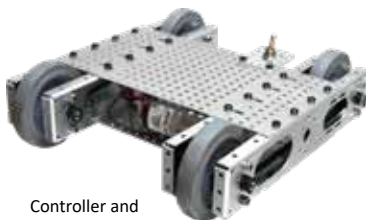
Gears Pneumatic Trainer

The Gears Pneumatic Trainer teaches students the history of science and technology as well as various pneumatic, science, engineering, and design principles. This trainer includes a linear actuator, regulator, solenoid, and air reservoir as well as various switches and structural components. The Gears Pneumatics Trainer can be used to introduce or reinforce concepts related to fluid power, mechanical linkages, volume, area, force, pressure, Boyle's Law, Charles' Law, The Ideal Gas Law, and basic algebraic manipulations. Students can easily convert the completed trainer to an air-powered catapult that can be used in an engineering challenge.

Shown with the included PS2 controller and HCM

Heavy Metal Chassis (HMC) Lite

The Gears HMC Lite is an easy-to-assemble, belt-driven platform made of the same rugged materials from which the Gears HMC is composed. The HMC Lite is ideal for task-oriented robot competitions, and its three wheels offer ultimate maneuverability. Because the HMC Lite is an open platform, students can easily integrate various sensors and accessories as well as their own controllers, such as Standard RC, Spektrum, VEX, NXT, BASIC Stamp, C Stamp, and the XIPMod Robot Control System.



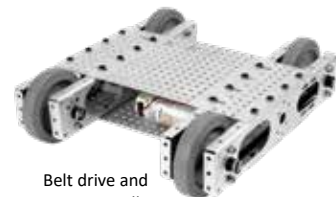
Controller and electronics not included

Heavy Metal Chassis (HMC)

The Gears Heavy Metal Chassis (HMC) is the toughest educational robot chassis and it is ideal for start-up engineering education classrooms as well as mature robotics programs. The HMC is offered in a standard chain drive or belt drive, both of which are made with rugged, industrial-strength components. This platform is quick and easy to construct, and it integrates easily with existing construction kits and control systems, including LEGO®, NXT, VEX, and Parallax, as well as sensors and other accessories.

Gears Combat Robot

The Gears Combat Robot is created using a base HMC belt-driven platform, and is one of the toughest robots on the market. This platform is made with rugged, industrial-strength components and is quick and easy to construct. Students can integrate their own control systems as well as sensors and other accessories, which makes it ideal for robotics competitions. The Combat Robot weighs less than 10 pounds and is also capable of withstanding 200 lbs of standing weight.



Belt drive and Wasp controller included



Gears Educational Systems



Controller and electronics not included

Heavy Metal Articulating Chassis (HMxAC)

The Heavy Metal Articulating Chassis (HMxAC) employs a chain drive system. The large wheels and articulating chassis make it ideal for outdoor activities. Total construction time for two students is 1-1/2 to 2 hours.

Surface Mobility Platform (SMP)

The Gears Surface Mobility Platform (SMP) is a research-quality platform made of industrial-grade components, which allow for heavier payloads in off-road environments. The chassis of this platform is scalable and easily customizable for mission-specific configurations. Not only is the SMP ideal for search and rescue experimentation, environmental research, surveillance, and simulated responder activities, but it can also be used in educational programs that integrate robotic technologies such as sensors, GPS, alternative energy systems, and autonomous control.



Controller and electronics not included

The Gears EdS™ products and curriculum emphasize many STEM initiatives and topics in the classroom, including:

Mechanical & Electrical Engineering

- Schematics
- Circuitry
- Theory of Operation

Mathematics

- Gear Ratios
- Quadratic Equations
- Trigonometry - Right Angles

Technology

- Pneumatics
- Motor Controls
- Radio Control

Manufacturing

- Custom Manufacturing Process
- Fabrication Concepts
- Tolerance & Quality Control
- Engineering Notebooks

Design

- Computer Aided Design
- Dimensioning
- Assemblies

Physics

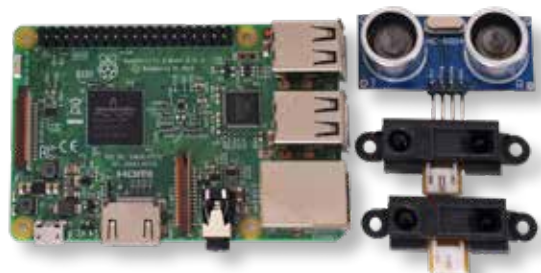
- Bernoulli's Principle
- Material Types and Density
- Newton's Laws of Motion

Mobile Robotics

- Chassis
- Drive Train Systems
- Motors
- Drive Assemblies
- Batteries
- Controllers

Brain and Sensors Package

Allow students to explore the exciting world of robotics and programming by using DEPCO's "Brain and Sensors" package. Package includes Gears EdS compatible Raspberry Pi, motor controller, and distance/proximity sensors.



Furniture and Flooring

Furniture

DEPCO manufactures a variety of classroom furniture. In addition to manufacturing, DEPCO proudly represents a number of furniture manufacturers. Let DEPCO assist in the design and layout of your classroom as well as outfitting your classroom with the most efficient and cost effective solutions in the industry!



IAP Bench
Maple Top - 6' (1016)
Maple Top - 7' (1017)
2'6" x 6' (7') x 2'10"



IAP Bench with Optional Lower Shelf - 002436
Maple Top - 6' (1016)
Maple Top - 7' (1017)
2'6" x 6' (7') x 2'10"



Chair
30" x 26-3/4" x 49-3/4"
Black



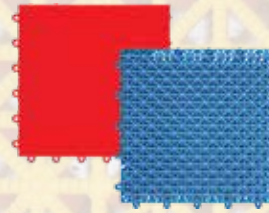
Tool Chest
Black



Universal Bench
Blue

VersaCourt Tile

Multifunctional flooring tile designed to provide shock-absorbing impact that protects the knees, ankles, and lower back from trauma. Installs over current flooring and requires no special tools or cleaners for maintenance or repair. VersaCourt carries a full 10-year warranty.



Available in these colors:



Also available in custom colors.



mobile SKILL[®]

SPECIALIZED KNOWLEDGE INDUSTRIAL LEARNING LAB

science | technology | engineering | math

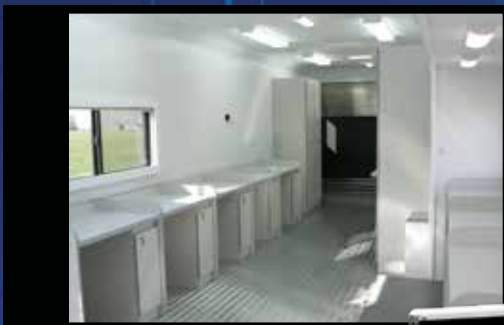
Fully Customizable Mobile Training Labs

Standard Options (Subject to Change)

- Fluorescent lights with diffusers
- Rivetless smooth exterior
- 110 V Switches
- 110 V Interior receptacles
- 50 A breaker box with lifeline
- Generator, 7 kW diesel
- White vinyl walls and ceiling
- 20 A Wall receptacle
- 110 V Converter PC 30/30 A 110 V to 12 V
- Ducted air conditioners with heat strip
- Fully networked with CAT6 cabling and wall jacks
- Electric leveling jacks

Available Options

- VersaCourt indoor tile floor
- Air compressor with supply lines and quick connects
- Network hub and wireless network setup
- Full wrap custom vinyl graphics
- Custom framed posters
- Mini refrigerator
- Awning
- Aluminum plank flooring
- Power glide outs
- Handicap accessible doors
- Adjustable ceiling projector mount with VGA cable



Additional Products



MakerBot 3D printers are affordable fabrication tools, compact enough to sit on any desktop and allow anyone at any skill level to become producers, inventors, and artists.

MakerBot METHOD (shown) was developed from the ground up leveraging industry-leading Stratasys® patents including a heated build chamber, precision dissolvable supports, and dry-sealed material bays. The MakerBot METHOD bridges the gap between industrial and desktop 3D printing.



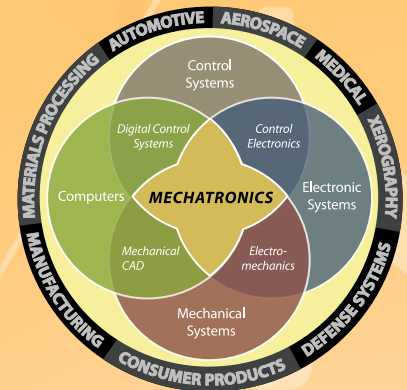
Preparing for Technical Careers in High-Growth Industries



DEPCO's Industrial Automation and Pre-Engineering (IAP) program is a skill-based, hands-on, interactive learning system that promotes STEM learning. This program uses equipment and software that is standard in today's industries. IAP provides students with not only the basics, but also the advanced knowledge and troubleshooting skills needed to have the competitive edge in today's job market. This innovative program is designed as an advanced industrial automation and pre-engineering program ideal for secondary and post-secondary schools.

Using the Mechatronics Principle, the IAP courseware was developed and designed to address national and international skill sets. The IAP program is comprised of Industrial Training Centers (ITC). The lessons in each ITC are in a clear, defined format, which guides the student through challenging applications and projects. Science, technology, engineering, and math (STEM) are integrated into each instructional unit.

Mechatronics Principle



Instruction

Each ITC includes multi-level courseware designed to develop industrial skills and automation integration. Each level includes instructional lessons using the DEPCO Studio Media Player delivery system and full-color Industrial Training Manuals.

Level 1. Fundamentals

IAP level 1 introduces students to individual industrial automation and pre-engineering components, principles, and safety. Level 1 builds an important knowledge-base for future applications.

Level 2. Applications and Troubleshooting

Using the knowledge gained in level 1, students proceed to the second level, incorporating advanced equipment and software into practical applications. Students demonstrate industrial troubleshooting skills and complete hands-on projects.

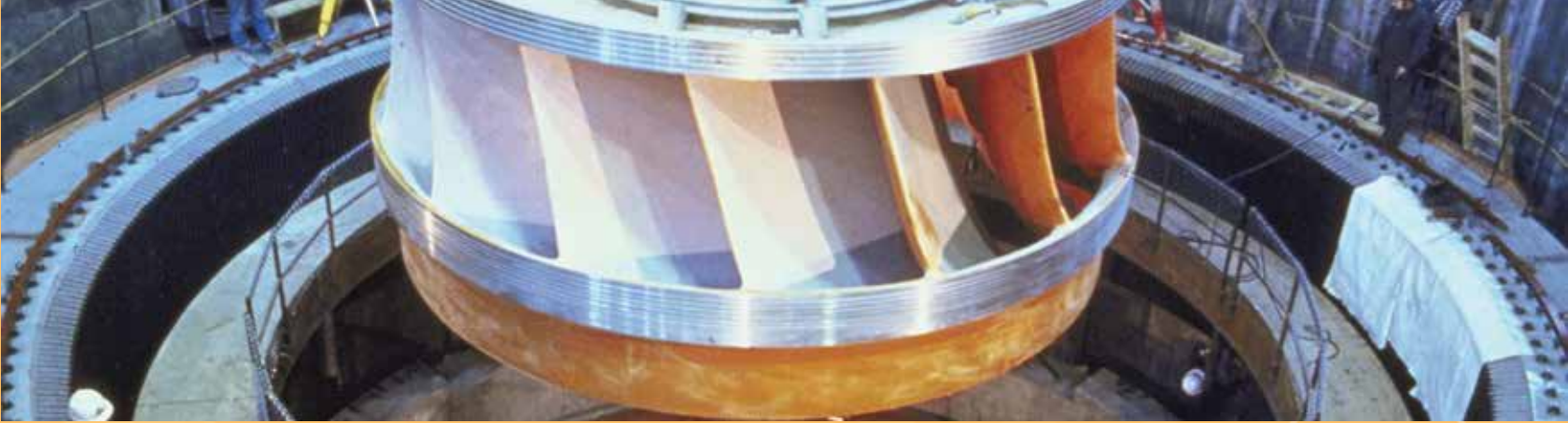
Skills

IAP focuses on the development of academic knowledge, employability skills, and technical skills. As students progress through the courseware, the classroom instructor uses authentic assessment to subjectively evaluate the students' skill and proficiency.



Featured Industrial Suppliers:

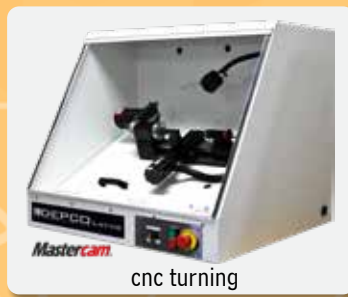




cad/cam



cnc machining



cnc turning



engineering design



industrial hydraulics



industrial motor controls



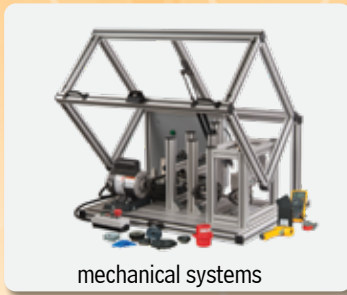
industrial plc



industrial pneumatics



industrial sensors



mechanical systems



NAO - humanoid robotics



tolerance and quality control



Industrial Automation & Pre-Engineering

High Schools & Post-Secondary

Health Science

Middle Schools, High Schools & Post-Secondary

Career Explorations

Middle Schools & High Schools

Robotics

Middle Schools, High Schools & Post-Secondary

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