

## 8VALLEY ROP COURSE OUTLINE

<b>COURSE TITLE:</b>	<b>Advanced Computer Drafting</b>	
<b>CBEDS TITLE:</b>	Computer-Aided Drafting/Design	
<b>CBEDS NUMBER:</b>	5705	
<b>CTE SECTOR:</b>	Engineering & Design	
<b>CTE PATHWAY:</b>	Engineering & Design	
<b>JOB TITLES:</b>	Electronic Drafters	17-3012.01
	Mechanical Drafters	17-3013.00
	Civil Drafter, (CAD)	17-3011.02
	Architectural Drafter	17-3011.01

### **COURSE DESCRIPTION:**

Application of computers to planning and details for wood, concrete, masonry, and steel structures. This course provides the information students need to compete in a competitive job market. The approach is a hands-on, lab- and exercise-intensive look at all the important concepts needed to draw in true 3-D.

<b>HOURS:</b>	360
<b>CREDITS:</b>	20
<b>PREREQUISITES:</b>	Computer Drafting
<b>DATE:</b>	December 2000
<b>REVISED:</b>	January 2006 / Nov 2009
<b>GRADE LEVELS:</b>	11-12
<b>TEXTBOOKS:</b>	<i>AutoCADD 2000: 3D Modeling, A Visual Approach</i> , Wilson.

### **INSTRUCTIONAL METHODS:**

1. Lecture
2. Class Discussions
3. Laboratory Work
4. Demonstrations
5. One-on-One

### **EVALUATION METHODS:**

- |   |            |
|---|------------|
| 1. Lab Exercises                        | 40%        |
| 2. Tests                                | 25%        |
| 3. Final Project                        | 25%        |
| 4. Work Ethics (attendance, class prep) | <u>10%</u> |
|   | 100%       |

## **OBJECTIVES/COMPETENCIES:**

Upon completion of this course, students will:

1. Understand the theory behind 3-D modeling.
2. Construct a 3-D model.
3. Solid Modeling.
4. Use enhancement features for presentations.

## **COURSE OUTLINE:**

<b>Unit of Instruction</b>	<b>Estimated Hours</b>
<b>Introduction to ROP Program</b> <ul style="list-style-type: none"><li>• Introduction to course and facility</li><li>• Overview of program</li><li>• Job and career opportunities in the field</li><li>• Safety and regulations</li></ul>	<b>3</b>
<b>The Personal Computer Hardware and How It Works</b> <ul style="list-style-type: none"><li>• Nomenclature of basic hardware</li><li>• How the system operates</li><li>• How to boot system disk</li><li>• Introduction to DOS commands</li><li>• How to boot the CAD system</li><li>• How to copy work files</li><li>• How to transfer computer files</li><li>• Copyright laws</li></ul>	<b>4</b>
<b>Creating and Recovering Work Files</b> <ul style="list-style-type: none"><li>• What is a work file</li><li>• How to recover a work file or drawing</li></ul>	<b>2</b>
<b>Understanding 3D</b> <ul style="list-style-type: none"><li>• Theory behind 3D Modeling</li><li>• Application</li></ul>	<b>20</b>
<b>Preparing for Construction of 3D Models</b> <ul style="list-style-type: none"><li>• Display of 3D model for construction</li><li>• Working in 3D space</li></ul>	<b>20</b>
<b>Construction of 3D Surface Model</b> <ul style="list-style-type: none"><li>• 2-1/2D Extrusion</li><li>• Wire frame</li><li>• Creation of a shell</li><li>• Elaborate surfaces</li></ul>	<b>20</b>

<b>Solid Modeling</b>	<b>26</b>
<ul style="list-style-type: none"> <li>• Concepts behind solid modeling <ul style="list-style-type: none"> <li>▪ Composite solids: Creation and modification</li> </ul> </li> <li>• Solid display and inquiry</li> <li>• Solid modeling projects</li> </ul>	
<b>Enhancing the Use of 3D</b>	<b>20</b>
<ul style="list-style-type: none"> <li>• Three-dimensional libraries</li> <li>• 3D parametric design</li> </ul>	
<b>Presentation</b>	<b>20</b>
<ul style="list-style-type: none"> <li>• Display of 3D models for presentation</li> <li>• Plotting</li> <li>• Rendering</li> </ul>	
<b>Application Projects</b>	<b>20</b>
<ul style="list-style-type: none"> <li>• Architectural Project: Residential Dwelling</li> <li>• Architectural Project: Commercial Building</li> <li>• Mechanical Project: Surface Modeling</li> <li>• Mechanical Project: Solid Modeling</li> <li>• Structural Project</li> <li>• Civil Project</li> </ul>	
<b>Application Programs</b>	<b>20</b>
<ul style="list-style-type: none"> <li>• AutoVision</li> <li>• AutoCAD Designer</li> <li>• 3D Studio</li> </ul>	
<b>Career Preparation Standards</b>	<b>5</b>
<b>Community Classroom</b>	<b>90</b>
<b>Cooperative Vocational Education</b>	<b>90</b>
<b>Total</b>	<b>360 Total Hours</b>

# STANDARDS

Wk	Content	CTE Foundation Stds.	Assessments	CTE Pathway Stds.
1 - 4	<p><b>Semester 1: CAD</b></p> <p><b>Introduction to ROP Program and Fundamentals of Design</b></p> <ul style="list-style-type: none"> <li>• Class objectives</li> <li>• Classroom rules</li> <li>• Job and career opportunities in the field</li> <li>• Safety and regulations</li> <li>• Portfolio</li> </ul> <p><b>Project #1: LOGO DESIGN</b></p> <p>Students will design a logo. The logo must communicate an idea or image. Students are to use conventional ways to design a logo. However, students are encouraged to break outside what is considered the norm for logo design.</p> <ul style="list-style-type: none"> <li>• Abstract Symbols of Real Things</li> <li>• Logotype of the Business Name</li> <li>• Letterforms</li> <li>• Illustrative – Real and Cartoon</li> <li>• Non – Objective Designs</li> <li>• Use of Various Shapes</li> <li>• Combinations of Techniques</li> </ul>	<p>Read Handout (R1.1, 1.2, 2.1, 2.3, W1.1 – 1.9, 2.3, C1.1 – 1.4, LS 1.1 – 1.9, 2.1)</p>	<ul style="list-style-type: none"> <li>• Project</li> <li>• Research Report (W2.5)</li> <li>• Class Discussions</li> <li>• Portfolio</li> <li>• Participation</li> </ul>	<p><b>Standards:</b></p> <p><b>A1.2</b></p> <p><b>A2.1 – 2.4</b></p> <p><b>A3.3 – 3.4</b></p> <p><b>A6.1 – 6.2</b></p> <p><b>A7.1 – 7.4</b></p> <p><b>A8.1 – 8.3</b></p> <p><b>A9.1 – 9.3</b></p>
	<p>ELD Standards</p>			
	<p><b>Essential Questions</b></p>		<p><b>Teacher Notes</b></p>	<p>ESLRs</p>

Wk	Content	CTE Foundation Stds.	Assessments	CTE Pathway Stds.		
5-8	<p><b>Project #2: KIOSK DESIGN</b></p> <p>Students will design a kiosk for the Free Speech area. The students must create plan and section drawings that communicate the design ideas. These drawings record and assist in the evolution of design processes and pictorialize the images of the final product. They also illustrate the methods of construction and are part of the legal documentation when the projects are built.</p> <p><b>Project #3: KIOSK ESTIMATE</b></p> <p>Students are to come up with a cost estimate for their kiosk design. Students must create a quantity take – off of the materials.</p> <p><b>Project #4: KIOSK CONSTRUCTION SCHEDULE</b></p> <p>Students are to present a complete project planning and control process – from basic management principles and pre – construction planning through scheduling, monitoring, record keeping, and cost control.</p>	<ul style="list-style-type: none"> <li>• Read Handout (R1.1, 1.2, 2.1, 2.3, W1.1 – 1.9, 2.3, C1.1 – 1.4, LS 1.1 – 1.9, 2.1)</li> <li>• Cost Estimate (NS 1.2 – 2.3, AF 1.2, MG 1.1 – 1.3, 2.1 – 2.3, 3.4, MR 1.1 – 1.2, 2.1, 2.4, 3.1, 3.3)</li> </ul>	<ul style="list-style-type: none"> <li>• Project</li> <li>• Research Report (W2.5)</li> <li>• Class Discussions</li> <li>• Portfolio</li> <li>• Participation</li> </ul>	<b>Standards:</b> <b>A1.1, 1.2</b> <b>A2.1 – 2.4</b> <b>A3.1 – 3.4</b> <b>A6.1 – 6.2</b> <b>A7.1 – 7.4</b> <b>A8.1 – 8.3</b> <b>A9.1 – 9.3</b>		
9-11				<b>ELD Standards</b>		
12-14				<b>ESLRs</b>		
<b>Essential Questions</b>			<b>Teacher Notes</b>			

Wk	Content	CTE Foundation Stds.	Assessments	CTE Pathway Stds.
15-18	<p><b>MIDTERM FINAL: TAMPER PROOF PUBLIC TELEPHONE SYSTEM</b></p> <p>Students will be work in teams of 4-5 students. The team’s task is to design a coin operated public telephone system that will stand up to heavy use, vandalism, and coinage theft.</p>	<ul style="list-style-type: none"> <li>• Working drawings</li> <li>• Detail drawings</li> <li>• Bill of Materials (NS 1.2 – 2.3, AF 1.2, MG 1.1 – 1.3, 2.1 – 2.3, 3.4, MR 1.1 – 1.2, 2.1, 2.4, 3.1, 3.3)</li> <li>• Formal presentation</li> </ul>	<ul style="list-style-type: none"> <li>• Quality of work (CAD)</li> <li>• Realistic solution</li> <li>• Presentation</li> <li>• Judges discretion</li> </ul>	<b>Standards:</b> <b>A1.1, 1.2</b> <b>A2.1 – 2.4</b> <b>A3.1 – 3.4</b> <b>A6.1 – 6.2</b> <b>A7.1 – 7.4</b> <b>A8.1 – 8.3</b> <b>A9.1 – 9.3</b>
				<b>ELD standards</b>

Wk	Content	CTE Foundation Stds.	Assessments	CTE Pathway Stds.
	<p>The design must be practical, use existing technologies and materials, and employ sound design principles.</p> <p>Teams will make a formal presentation.</p>			
	<b>Essential Questions</b>		<b>Teacher Notes</b>	ESLRs

Wk	Content	CTE Foundation Stds.	Assessments	CTE Pathway Stds.
19	<p><b>Semester 2: Board Drafting</b></p> <p><b>Site Plan</b></p> <p>Students will ...</p> <ul style="list-style-type: none"> <li>Identify the major elements used in site design.</li> <li>Understand the role and uses of zoning ordinances in the design process.</li> <li>Draw survey, plat, and plot plans.</li> <li>Understand the polar coordinate system and its application to site plans.</li> <li>Design, draw, and render landscape plans and elevations.</li> </ul>	<ul style="list-style-type: none"> <li>Read Handout (R1.1, 1.2, 2.1, 2.3, W1.1 – 1.9, 2.3, C1.1 – 1.4, LS 1.1 – 1.9, 2.1, NS 1.2 – 2.3, AF 1.2, MG 1.1 – 1.3, 2.1 – 2.3, 3.4, MR 1.1 – 1.2, 2.1, 2.4, 3.1, 3.3)</li> </ul>	<ul style="list-style-type: none"> <li>Project</li> <li>Class Discussions</li> <li>Portfolio</li> <li>Participation</li> </ul>	<p><b>Standards:</b></p> <p><b>A1.1 – 1.2</b></p> <p><b>A2.1 – 2.4</b></p> <p><b>A3.3 – 3.4</b></p> <p><b>A4.6</b></p> <p><b>A6.1 – 6.2</b></p> <p><b>A7.1 – 7.4</b></p> <p><b>A8.1 – 8.3</b></p> <p><b>A9.1 – 9.3</b></p>
	<b>Essential Questions</b>		<b>Teacher Notes</b>	<p>ELDStandards</p> <p>ESLRs</p>

Wk	Content	CTE Foundation Stds.	Assessments	CTE Pathway Stds.
20-22	<b>Floor Plan</b> Students will ... <ul style="list-style-type: none"> <li>Use information on a scaled floor plan to draw a complete floor plan.</li> <li>Use graphic symbols to communicate information on a floor plan.</li> <li>Draw a floor plan according to a sequence of steps.</li> <li>Draw dimensions that convey precise, accurate information for builders.</li> </ul>	<ul style="list-style-type: none"> <li>Read Handout (R1.1, 1.2, 2.1, 2.3, W1.1 – 1.9, 2.3, C1.1 – 1.4, LS 1.1 – 1.9, 2.1, NS 1.2 – 2.3, AF 1.2, MG 1.1 – 1.3, 2.1 – 2.3, 3.4, MR 1.1 – 1.2, 2.1, 2.4, 3.1, 3.3)</li> </ul>	<ul style="list-style-type: none"> <li>Project</li> <li>Class Discussions</li> <li>Portfolio</li> <li>Participation</li> </ul>	<b>Standards:</b> <b>A1.1 – 1.2</b> <b>A2.1 – 2.4</b> <b>A3.3 – 3.4</b> <b>A4.6</b> <b>A6.1 – 6.2</b> <b>A7.1 – 7.4</b> <b>A8.1 – 8.3</b> <b>A9.1 – 9.3</b>
				ELD Standards

W	Content	CTE Foundation Stds.	Assessments	CTE Pathway Stds.
23-24	<b>Foundation Plan</b> Students will ... <ul style="list-style-type: none"> <li>Draw foundation plan.</li> <li>Identify the components and materials used in foundations.</li> <li>Relate the layout and excavations for a building to the type of foundation it will have.</li> </ul>	<ul style="list-style-type: none"> <li>Read Handout (R1.1, 1.2, 2.1, 2.3, W1.1 – 1.9, 2.3, C1.1 – 1.4, LS 1.1 – 1.9, 2.1, NS 1.2 – 2.3, AF 1.2, MG 1.1 – 1.3, 2.1 – 2.3, 3.4, MR 1.1 – 1.2, 2.1, 2.4, 3.1, 3.3)</li> </ul>	<ul style="list-style-type: none"> <li>Project</li> <li>Class Discussions</li> <li>Portfolio</li> <li>Participation</li> </ul>	<b>Standards:</b> <b>A1.1 – 1.2</b> <b>A2.1 – 2.4</b> <b>A3.3 – 3.4</b> <b>A4.6</b> <b>A6.1 – 6.2</b> <b>A7.1 – 7.4</b> <b>A8.1 – 8.3</b> <b>A9.1 – 9.3</b>
				ELD Standards
	<b>Essential Questions</b>		<b>Teacher Notes</b>	ESLRs

Wk	Content	CTE Foundation Stds.	Assessments	CTE Pathway Stds.
25- 26	<b>Building Sections</b> Students will ... <ul style="list-style-type: none"> <li>Describe types of sectional drawings.</li> <li>Communicate views of sections based on a cutting plane.</li> <li>Draw sections, using correct codes and proper dimensioning.</li> <li>Evaluate when a detail sectional drawing is needed.</li> <li>Read and prepare detail drawings.</li> <li>Design and prepare cabinet drawings.</li> </ul>	<ul style="list-style-type: none"> <li>Read Handout (R1.1, 1.2, 2.1, 2.3, W1.1 – 1.9, 2.3, C1.1 – 1.4, LS 1.1 – 1.9, 2.1, NS 1.2 – 2.3, AF 1.2, MG 1.1 – 1.3, 2.1 – 2.3, 3.4, MR 1.1 – 1.2, 2.1, 2.4, 3.1, 3.3)</li> </ul>	<ul style="list-style-type: none"> <li>Project</li> <li>Class Discussions</li> <li>Portfolio</li> <li>Participation</li> </ul>	<b>Standards:</b> <b>A1.1 – 1.2</b> <b>A2.1 – 2.4</b> <b>A3.3 – 3.4</b> <b>A4.6</b> <b>A6.1 – 6.2</b> <b>A7.1 – 7.4</b> <b>A8.1 – 8.3</b> <b>A9.1 – 9.3</b>
	<b>Essential Questions</b>			<b>Teacher Notes</b>
				<b>ESLRs</b>

Wk	Content	CTE Foundation Stds.	Assessments	CTE Pathway Stds.
27- 28	<b>Roof and Ceiling Framing</b> Students will ... <ul style="list-style-type: none"> <li>Describe roof framing members, components, and methods.</li> <li>Calculate roof pitch.</li> <li>Draw a roof framing plan showing structural</li> </ul>	<ul style="list-style-type: none"> <li>Read Handout (R1.1, 1.2, 2.1, 2.3, W1.1 – 1.9, 2.3, C1.1 – 1.4, LS 1.1 – 1.9, 2.1, NS 1.2 – 2.3, AF 1.2, MG 1.1 – 1.3, 2.1 – 2.3, 3.4, MR 1.1 – 1.2, 2.1, 2.4, 3.1, 3.3)</li> </ul>	<ul style="list-style-type: none"> <li>Project</li> <li>Class Discussions</li> <li>Portfolio</li> <li>Participation</li> </ul>	<b>Standards:</b> <b>A1.1 – 1.2</b> <b>A2.1 – 2.4</b> <b>A3.3 – 3.4</b> <b>A4.6</b> <b>A6.1 – 6.2</b> <b>A7.1 – 7.4</b> <b>A8.1 – 8.3</b> <b>A9.1 – 9.3</b>

Wk	Content	CTE Foundation Stds.	Assessments	CTE Pathway Stds.
	members, sizes, pitch, and spacing. <ul style="list-style-type: none"> <li>• Draw roof framing details and elevations.</li> </ul>			
Wk	Content	CTE Foundation Stds.	Assessments	CTE Pathway Stds.
29-30	<b>Exterior Elevations</b> Students will ... <ul style="list-style-type: none"> <li>• Follow steps to project elevations from a floor plan and complete an elevation drawing.</li> <li>• Draw accurately scaled and dimensioned elevations.</li> <li>• Mathematically establish the pitch of a roof</li> <li>• Understand symbols used on elevations.</li> <li>• Use shading and rendering techniques used on elevations.</li> </ul>	<ul style="list-style-type: none"> <li>• Read Handout (R1.1, 1.2, 2.1, 2.3, W1.1 – 1.9, 2.3, C1.1 – 1.4, LS 1.1 – 1.9, 2.1, NS 1.2 – 2.3, AF 1.2, MG 1.1 – 1.3, 2.1 – 2.3, 3.4, MR 1.1 – 1.2, 2.1, 2.4, 3.1, 3.3)</li> </ul>	<ul style="list-style-type: none"> <li>• Project</li> <li>• Class Discussions</li> <li>• Portfolio</li> <li>• Participation</li> </ul>	<b>Standards:</b> <b>A1.1 – 1.2</b> <b>A2.1 – 2.4</b> <b>A3.3 – 3.4</b> <b>A4.6</b> <b>A6.1 – 6.2</b> <b>A7.1 – 7.4</b> <b>A8.1 – 8.3</b> <b>A9.1 – 9.3</b>  <b>ELD Standards</b>
				ESLRs

## **CAREER PREPARATIONS STANDARDS:**

- A. **PERSONAL SKILLS** - Students will understand how personal skill development affects their employability. This skill includes positive attitudes, self-confidence, honesty, responsibility, initiative, self-discipline, personal hygiene, time management, and the capacity for lifelong learning.
1. Demonstrate an understanding of classroom policies and procedures.
  2. Discuss importance of the following personal skills in the business environment:
    - a. positive attitude
    - b. self-confidence
    - c. honesty
    - d. perseverance
    - e. self-management/work ethic
    - f. pride in product/work
    - g. dependability
  3. Identify acceptable work attire.
  4. Establish goals for self-improvement and further education/training.
  5. Prioritize tasks and meet deadlines.
  6. Understand the importance of initiative and leadership.
  7. Understand the importance of lifelong learning in a world of constantly changing technology.
- B. **INTERPERSONAL SKILLS** - Students will understand key concepts on group dynamics, conflict resolution, and negotiation. This skill includes the ability to work cooperatively, accept supervision, assume leadership roles, and show respect for others. This standard includes an understanding of sexual harassment laws and an appreciation of cultural diversity in the workplace.
1. Identify and discuss behaviors of an effective team.
  2. Explain the central importance of mutual respect in the workplace relations.
  3. Discuss and demonstrate strategies for conflict resolution and negotiation, and explain their importance within the business environment.
  4. Understand laws that apply to sexual harassment in the workplace, and identify tactics for handling harassment situations.
  5. Work cooperatively, share responsibilities, accept supervision and assume leadership roles.
  6. Demonstrate cooperative working relationships and proper etiquette across gender and cultural groups.
- C. **THINKING AND PROBLEM-SOLVING SKILLS** - Students will exhibit critical and creative thinking skills, logical reasoning, and problem-solving. These skills include applying basic skills in order to calculate, estimate, measure; identify, locate, and organize information/data; interpret and follow directions from manuals, labels, and other sources; analyze and evaluate information and solutions.
1. Recognize the importance of good academic skills and implement a plan for self-improvement as needed.

2. Read, write, and give directions.
  3. Exhibit critical and creative thinking skills and logical reasoning skills, and employ these skills for problem solving.
    - a. Work as a team member in solving problems.
    - b. Diagnose the problem, its urgency, and its causes.
    - c. Identify alternatives and their consequences.
    - d. Explore possible solutions.
    - e. Compare/contrast the advantages and disadvantages of alternatives.
    - f. Determine appropriate action(s).
    - g. Implement action(s).
    - h. Evaluate results of action(s) taken.
- D. COMMUNICATION SKILLS - Students will understand principles of effective communication. This standard includes effective oral and written communication, listening skills, following and giving directions, requesting and giving information, asking questions.
1. Use communication concepts in application of skills, techniques, and operations.
    - a. Prepare written material.
    - b. Analyze written material.
  2. Understand and implement written instructions, from technical manuals, written communications, and reference books.
  3. Present a positive image through verbal and nonverbal communication, and understand the power of body language in communication.
  4. Demonstrate active listening through oral and written feedback.
  5. Give and receive feedback.
  6. Demonstrate assertive communications (both oral and written).
  7. Demonstrate proper etiquette in workplace communications, including an awareness of requisites for international communications (languages, customs, time zones, currency and exchange rates).
  8. Demonstrate writing/editing skills as follows:
    - a. Write, proofread, and edit work.
    - b. Use correct grammar, punctuation, capitalization, vocabulary, and spelling.
    - c. Select and use appropriate forms of technology for communication.
  9. Exhibit a proficiency in the use of reference books.
  10. Research, compose, and orally present information for a variety of business situations utilizing appropriate technology.
- E. OCCUPATIONAL SAFETY - Students will understand occupational safety issues, including the avoidance of physical hazards in the work environment. This includes the safe operation of equipment, proper handling of hazardous materials, appropriate attire and safety accessories, avoidance of physical injuries, interpretation of warning and hazard signs and terminology, and following and understanding safety-related directions.
1. Discuss and implement good safety practices, including the following (if applicable to course):
    - a. personal
    - b. lab
    - c. fire

- d. electrical
  - e. equipment
  - f. tools
  - g. interpretation of Material Safety Data Sheets (MSDSs)
  - h. Environmental Protection Agency (EPA)
  - i. Occupational Safety and Health Administration (OSHA)
  - j. American Red Cross Standards (ARC)
  - k. Networking Safety Standards
2. Apply sound ergonomic principles in organizing one's work space.
- F. EMPLOYMENT LITERACY - Students will understand career paths and strategies for obtaining employment within their chosen field. This includes traditional job preparation skills, such as resumes, application forms, cover letters, sources of employment information, and interviewing skills, but also includes an overview of the industry and an understanding of labor market trends.
- 1. Explore career opportunities and projected trends; investigate required education, training and experience; and develop an individual education plan.
  - 2. Identify steps for setting goals and writing personal goals and objectives.
  - 3. Examine aptitudes related to career options; relate personal characteristics and interests to educational and occupational opportunities.
  - 4. Develop a career portfolio, including the following documents:
    - a. job application
    - b. resume(s)
    - c. appropriate cover and follow-up correspondence
  - 5. Identify and demonstrate effective interviewing techniques.
- G. TECHNOLOGY LITERACY - Students will understand and adapt to changing technology by identifying, learning, and applying new skills to improve job performance. Students should understand the role of technology in their chosen field and should be able to use all appropriate technology. Students should also feel confident in their ability to learn new technology by generalizing from what they know, adapting skills to new situations, and identifying and using sources of information and of further learning.
- 1. Demonstrate the ability to use personal computers for loading and retrieving data, information gathering, measurements, and writing.
  - 2. Identify the characteristics and explain the importance of adapting to changes, being flexible, and evaluating goals when working in the industry.
  - 3. Understand the importance of lifelong learning in adapting to changing technology.
- H. IMPORTANCE OF ETHICS – Students will understand proper ethics in the workplace.
- 1. Discuss social and ethical responsibilities in the industry.
  - 2. Demonstrate ethical choices in workplace situations.