



# Lesson Plans

CAREER AND TECHNICAL  
TRAINING FOR SKILLED TRADE  
OCCUPATIONS IN MICHIGAN

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MICHIGAN CREDIT UNION LEAGUE & AFFILIATES

## Lesson #1

### Skilled Trade Occupations in Michigan

#### Project Overview

Students entering the job market in Michigan have many career opportunities that do not require the financial and time investment of a four-year college degree program. This lesson is part of an educational campaign to introduce students to careers and training in Skilled Trade Occupations in Michigan.

According to a June 2013 report, *Employment and Occupations in the Skilled Trades in Michigan* (prepared by the State of Michigan Department of Technology, Management, and Budget; Bureau of Labor Market Information and Strategic Initiatives), Michigan employers are finding that potential employees are lacking the appropriate skill sets for Skilled Trade positions. Because of this, U.S. Congressman Dan Benishek of Michigan and other key lawmakers would like to launch a campaign that educates students on the career and technical training that is available if they choose not to pursue a four-year college degree. The goal of this campaign is to assist Michigan residents and Michigan employers to better connect in the area of Skilled Trades occupations.

The Michigan Credit Union League has prepared materials to assist in this education. These materials, geared towards teenagers and young adults, include a series of lesson plans and a comprehensive guidebook which provides details about high-demand Skilled Trade jobs and training sites in Michigan.

This educational presentation includes a PowerPoint presentation highlighting information regarding high-demand jobs available in the Michigan Industry Cluster. It also provides information about available career and technical education training facilities to assist students in preparing for a job in the skilled trades.

#### Program Materials

- PowerPoint presentation, available on flash drive or on the Michigan Credit Union League website.
- *Guide to Skilled Trade Jobs and Training in Michigan* produced by the Michigan Credit Union League. This guide provides detailed information about several high-demand jobs in Michigan including job descriptions, salary level, job outlook, education and training requirements and training locations. NOTE: Print a copy of this guide from the Michigan Credit Union League website to utilize during the classroom presentation, and then leave with the teacher for future student reference. Also consider printing multiple copies of the guide to share with interested students or to provide to the school career center.

#### Preparing for the Class

Schedule a visit with the teacher(s) before your presentation. This will assist you in determining the school's goals and will also allow you to discuss the presentation content with the teacher(s).

- Discuss the project's objectives with the teacher(s), reviewing the main points that you plan to make.
- Discuss any discipline procedures that are in place in the classroom and ensure that the teacher will be present during your lesson.
- Go over any required audio visual equipment that you will need your presentation.
- Prior to your visit, review the handouts and support materials provided for the lesson.
- Think about ways that you can enhance the lesson by making real-life connections that would be relevant to the presentation.

## Objectives

Through this lesson students will:

1. Have an understanding of high-demand Skilled Trade occupations available in the state of Michigan.
2. Be able to identify 4 to 5 careers in each of the five Michigan Industry Clusters and learn about the salary levels and growth expectations associated with those positions.
3. Be aware that while these positions do not require employees to obtain a four-year college degree, they will often have specific training or educational requirements.
4. Be aware that they can learn about these requirements and find available training facilities in Michigan by accessing the *Guide to Skilled Trade Jobs and Training in Michigan* resource.

## Presentation

- Greet the students.
- Be positive, friendly and enthusiastic.
- Encourage participation with positive reinforcement.
- Give the teacher the opportunity to introduce you to the students.
- Tell the students about your background and the purpose of the lesson that you are about to present.
- Tell the students that you are about to share a PowerPoint presentation outlining Skilled Trade jobs that are in high demand in the state of Michigan.
- Share with them that these points:
  1. These occupations can provide a solid wage
  2. While they do require some training or education after high school, they do not require obtaining a four-year college degree.
  3. A career in one of these Skilled Trade positions can offer a good alternative for post high-school employment for students who do not wish to pursue a four-year college degree.
- Present the PowerPoint presentation to the class, providing details from the notes pages provided with the PowerPoint.
- Ask the students to write down one of the jobs that they are most interested in and list some of the aspects of that job or the training that interests them.
- Ask the students to partner up with another student and share what they both wrote down.
- Call on the students randomly and ask them to share what they have written down.

## Reflection

- Ask the students what they feel the advantages are to getting a Skilled Trade job (high-growth expectations, less expensive than going to a four-year college, employer-paid training, etc.).
- Review with students that there are many career education training facilities in the state of Michigan that will support students who are interested in pursuing a Skilled Trade occupation.
- Show the students a copy of the *Guide to Skilled Trade Jobs and Training in Michigan*, and tell them that you will leave a copy with the teacher for future reference.
- Ask the students why they think it is important to consider the cost of training and education when making career choices.
- Ask the students, “Beside wages, what other values do you think are important when selecting a career?”

## Benchmarks

C.A1.2 Learn about the variety of traditional and nontraditional occupations.

## Lesson #2

### Skills Identification

#### Project Overview

Students entering the job market in Michigan have many career opportunities that do not require the financial and time investment of a four-year college degree program. This lesson is part of an educational campaign to introduce students to careers and training in Skilled Trade Occupations in Michigan.

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The Michigan Credit Union League has prepared materials to assist in this education. These materials, geared towards teenagers and young adults, include a series of lesson plans and a comprehensive guidebook which provides details about high-demand Skilled Trade jobs and training sites in Michigan.

This educational presentation is part of a series of lesson plans that starts with an overview in Lesson #1 and continues with supplemental targeted activities to help students explore Skilled Trade occupations. This lesson provides students an opportunity to make connections between skills and occupations.

#### Program Materials

- Chart paper
- Markers
- Skill vocabulary list
- High-demand Skilled Trade job list
- Tape for hanging chart papers (if needed)
- *Guide to Skilled Trade Jobs and Training in Michigan* produced by the Michigan Credit Union League. This guide provides detailed information about several high-demand jobs in Michigan including job descriptions, salary level, job outlook, education and training requirements and training locations.  
NOTE: Print at least one copy of this guide from the Michigan Credit Union League website to utilize during the classroom presentation, and then leave with the teacher for future student reference. Also consider printing multiple copies of the guide to share with interested students or to provide to the school career center.

#### Preparing for the Class

Schedule a visit with the teacher(s) before your presentation. This will assist you in determining the school's goals and will also allow you to discuss the presentation content with the teacher(s).

- Discuss the project's objectives with the teacher(s), reviewing the main points that you plan to make.
- Discuss any discipline procedures that are in place in the classroom and ensure that the teacher will be present during your lesson.



- Go over any required audio visual equipment that you will need your presentation.
- Prior to your visit, review the handouts and support materials provided for the lesson.
- Think about ways that you can enhance the lesson by making real-life connections that would be relevant to the presentation.

## Objectives

Through this lesson students will:

1. Identify skills that are necessary for Skilled Trade jobs in high demand in Michigan.
2. Make connections between skills and occupations that require those skills.
3. Work collaboratively with others to gather, organize and present data.

## Presentation

- Greet the students.
- Be positive, friendly and enthusiastic.
- Encourage participation with positive reinforcement.
- Give the teacher the opportunity to introduce you to the class. Have him/her describe your position and tell students that you are here to help them explore employment opportunities that require special skills.
- Give the students a brief description of the skilled-trade education project and what you will be discussing today.
- Ask students to brainstorm some of the skills that might be important in a job and ask them to jot these down on paper.
- Call on students randomly or ask for volunteers to share what they wrote on their lists.
- Distribute copies of the skill vocabulary list (below) and ask students to compare this to the notes they just made to see if their skill list matches the terms on that list.
- Divide the class into groups of 3 – 4 students and provide each group with a sheet of chart paper with one of the Skilled Trade jobs (from the list below) written on it.
- Ask students as a group to list the skills that they think would be important for the Skilled Trade listed at the top of their chart paper. Allow 5-10 minutes for students to work on this project and then distribute tape for students to post their charts on the classroom walls.
- Ask students to walk around the room and observe the data that their classmates have posted on their charts.
- Using the *Guide to Skilled Trade Jobs and Training in Michigan*, ask the students to review the profile associated with the Skilled Trade job on their paper and compare that to their notes.

## Reflection

Ask the students:

- What they noticed on the skilled trade charts.
- What skills were listed the most?
- Were the results similar or varied?
- If they agree with the skill choices that each group made.
- Which of these skills do they utilize in school now?

## Benchmarks

C.C2.3 Learn to work cooperatively with others as a team member.

## High-Demand Skilled Trade Jobs in Michigan

### The Manufacturing Cluster

- Welders
- Computer Numerical Control (CNC) Machine Tool Programmers
- Industrial Machinery Mechanics
- Computer Numerical Control CNC Machinists
- Tool and Die Makers

### The Health Care Cluster

- Nursing Aides, Orderlies, Attendants
- Pharmacy Technicians
- Dental Assistants
- Physical Therapist Assistants
- Home Health Aides

### The Agriculture Cluster

- Food Batch Makers
- Meat Packer
- Butchers and Meat Cutters
- Tree Trimmers and Pruners
- Landscaping and Groundskeeping Workers

### The Energy Cluster

- Heating, Ventilation, Air Conditioning and Refrigeration Mechanics
- Plumbers, Pipefitters and Steamfitters
- Electrical Power-Line Installer and Repairers
- Engineering Technicians
- Environmental Engineering Technician

### The Information Technology Cluster

- Computer Network Support Specialists
- Computer User Support Specialists
- Computer Programmers
- Database Administrators

## Skill Vocabulary List

**Active listener:** Able to give full attention to what other people are saying and taking time to ask appropriate questions.

**Building and construction:** Knowledge of materials and tools needed for construction.

**Chemistry:** Knowledge of chemical composition, structure and the properties of substances.

**Computer knowledge:** Understanding of computers, circuit boards, electronic equipment and computer hardware and software.

**Coordination:** Adjusting actions in relation to others' actions.

**Critical thinker:** Using logic and reasoning to identify problems and possible solutions.

**Customer service:** Knowledge of processes for providing customer satisfaction.

**Deductive reasoning:** Applying general rules to specific problems to get solutions.

**Depth perception:** Ability to judge the distance of objects.

**Engineering technology:** Knowledge of engineering technology and the procedures and equipment used to design and produce various goods.

**English language:** Understanding the meaning and spelling of words and proper grammar usage.

**Food production:** Understanding of the techniques and equipment needed for planting, growing and harvesting food products.

**Inductive reasoning:** Combining pieces of information to form a general rule.

**Information ordering:** Ability to arrange things in a certain order or pattern.

**Manual dexterity:** Ability to grasp manipulate or assemble objects using your hands.

**Mathematics:** Knowledge of arithmetic and higher levels of math.

**Near vision:** Ability to see details at close vision.

**Problem sensitivity:** Ability to tell when something is likely to go wrong.

**Psychology:** Knowledge of human behavior and performance.

**Reading comprehension:** Ability to understand written documents.

**Social perceptiveness:** Being aware of others' reactions and understanding them.

**Therapy and counseling:** Knowledge of methods and procedures for treatment and rehabilitation of individuals.

## Lesson #3

### Skills Assessment

#### Project Overview

Students entering the job market in Michigan have many career opportunities that do not require the financial and time investment of a four-year college degree program. This lesson is part of an educational campaign to introduce students to careers and training in Skilled Trade Occupations in Michigan.

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The Michigan Credit Union League has prepared materials to assist in this education. These materials, geared towards teenagers and young adults, include a series of lesson plans and a comprehensive guidebook which provides details about high-demand Skilled Trade jobs and training sites in Michigan.

This educational presentation is part of a series of lesson plans that starts with an overview in Lesson #1 and continues with supplemental targeted activities to help students explore Skilled Trade occupations. In this presentation, students identify personal skills through a skills assessment and identify jobs that require those skills.

#### Program Materials

- Skills Assessment
- Pencils (if needed)
- *Guide to Skilled Trade Jobs and Training in Michigan* produced by the Michigan Credit Union League. This guide provides detailed information about several high-demand jobs in Michigan including job descriptions, salary level, job outlook, education and training requirements and training locations. NOTE: Print a copy of this guide from the Michigan Credit Union League website to utilize during the classroom presentation, and then leave with the teacher for future student reference. Each student will be asked to refer to this guide in this lesson. Have multiple printed copies available unless there will be computer access available to the guide. Consider leaving printed copies of the guide with interested students or with the school career center.

#### Preparing for the Class

- Schedule your visit with the teacher and administrator before your presentation.
- Discuss the lesson outline that you are preparing to present.
- Discuss the lesson's objectives reviewing the main points that you plan to make.
- Discuss discipline procedures that are in place in the classroom and ensure that the teacher will be present when you are giving your presentation.
- Review the lesson and vocabulary list prior to your visit.
- Think about ways to connect the lesson to your own real life experiences.
- Review the skills assessment and make enough copies for the entire class.



## Objectives

Through this lesson students will:

1. Identify personal skills that they possess.
2. Work collaboratively with others to compare their findings and be able to share their results verbally.
3. Make connections between their personal skills and the jobs that require those skills.

## Presentation

- Greet the students.
- Be positive, friendly and enthusiastic.
- Give the teacher the opportunity to introduce you to the class.
- Give the students a brief description of the skilled trade education project and what you will be discussing today.
- Before beginning, ask students if they have taken personality tests before.
- Did they feel that they were accurate?
- Explain how jobs require different skills and abilities.
- Explain that they will be taking a “Skills and Abilities Assessment” to analyze their current and future skills.
- Distribute the skills assessment and ask students to work independently to complete the worksheet.
- Explain to them that placing a check next to a skill doesn’t mean that you are physically capable of doing it, but that it is a skill you are willing to learn and feel you could perform well at a job.
- Wander around the room as needed to answer any questions students may have.
- After about 5 minutes, ask students to total their checkmarks.
- Ask the class “who had the most checks in the people category?” Have those students go to one side or corner of the room. Repeat with each of the categories sending students to different areas of the room. If there was a tie on their assessment, have the student select the category with the most checks of natural ability.
- Distribute copies of the High-Demand Skilled Trade Job listing to each group and have students work together. Have them select one or two of the Skilled Trade jobs on the list that they think would match up with the skills that they identified on their assessments. Have them list that specific job on the top of their worksheet.
- Ask them to look up the job profile for the job they selected in the *Guide to Skilled Trade Jobs and Training in Michigan* and review the skills required for that position.
- Collect their worksheets so that they can use them in the career scavenger hunt activity (lesson #4 in this series).

## Reflection

Ask students to volunteer some of their results from the skills assessment and share with the class.

- Ask students if they could easily connect their skills with one of the high-demand skills jobs. (Do these jobs fit them personally? Are they jobs that they would be interested in learning more about?)

## Benchmarks:

C.A1.3 Develop an awareness of personal abilities, skills, interests, and motivations

## High-Demand Skilled Trade Jobs in Michigan

### The Manufacturing Cluster

- Welders
- Computer Numerical Control (CNC) Machine Tool Programmers
- Industrial Machinery Mechanics
- Computer Numerical Control CNC Machinists
- Tool and Die Makers

### The Health Care Cluster

- Nursing Aides, Orderlies, Attendants
- Pharmacy Technicians
- Dental Assistants
- Physical Therapist Assistants
- Home Health Aides

### The Agriculture Cluster

- Food Batch Makers
- Meat Packer
- Butchers and Meat Cutters
- Tree Trimmers and Pruners
- Landscaping and Groundskeeping Workers

### The Energy Cluster

- Heating, Ventilation, Air Conditioning and Refrigeration Mechanics
- Plumbers, Pipefitters and Steamfitters
- Electrical Power-Line Installer and Repairers
- Engineering Technicians
- Environmental Engineering Technician

### The Information Technology Cluster

- Computer Network Support Specialists
- Computer User Support Specialists
- Computer Programmers
- Database Administrators

## Skills & Abilities Assessment

Jobs require different skills and abilities. You might not have all the skills or abilities necessary for some occupations, but you do have aptitude to learn new skills. Aptitudes measure the ease with which you can learn something new.

### Directions

In each section, place a check mark next to the skills you have now. Then go back and place a check mark next to the skills you might not have, but feel you could learn with a little work. Total the checks in each section. At the bottom of the page, circle the area where you had the most skills and aptitude.

### People

Do you have the ability for:	✓
Teaching	
Supervising	
Caring for others	
Host or hosting	
Presiding over meetings	
Leading others	
Listening and counseling	
Selling goods and services	
<b>Total</b>	

### Things

Do you have the ability for:	✓
Repairing things or objects	
Operating machinery or equipment	
Assembling parts	
Using tools	
Cooking or baking	
Operating a sewing machine	
Woodworking	
Construction work	
<b>Total</b>	

### Data

Do you have the ability for:	✓
Accounting or record keeping	
Statistical work	
Research	
Testing products or ideas	
Investigating problems	
Computer programming	
Working scientific experiments	
Collecting information	
<b>Total</b>	

### Ideas

Do you have the ability for:	✓
Writing stories and poems	
Composing music	
Designing new products	
Drawing	
Inventing new products	
Acting or singing	
Playing a musical instrument	
Organizing new clubs or activities	
<b>Total</b>	

**My highest skills section at this time is:**

**People**

**Data**

**Things**

**Ideas**

Adapted from: Career Choices in North Carolina, 2005-2006 Career Development User's Guide, Youth Edition

## Lesson #4

# Finding Careers and Training

### Project Overview

Students entering the job market in Michigan have many career opportunities that do not require the financial and time investment of a four-year college degree program. This lesson is part of an educational campaign to introduce students to careers and training in Skilled Trade Occupations in Michigan.

According to a June 2013 report, *Employment and Occupations in the Skilled Trades in Michigan* (prepared by the State of Michigan Department of Technology, Management, and Budget; Bureau of Labor Market Information and Strategic Initiatives), Michigan employers are finding that potential employees are lacking the appropriate skill sets for Skilled Trade positions. Because of this, Congressman Benishek and other key lawmakers would like to launch a campaign that educates students on the career and technical training that is available if they choose not to pursue a four-year college degree. The goal of this campaign is to assist Michigan residents and Michigan employers to better connect in the area of Skilled Trades occupations.

The Michigan Credit Union League has prepared materials to assist in this education. These materials, geared towards teenagers and young adults, include a series of lesson plans and a comprehensive guidebook which provides details about high-demand Skilled Trade jobs and training sites in Michigan.

This educational presentation is part of a series of lesson plans that starts with an overview in Lesson #1 and continues with supplemental targeted activities to help students explore Skilled Trade occupations. In this presentation, students participate in a computer career scavenger hunt to explore Skilled Trade careers and training opportunities.

### Program Materials

- Computer access is necessary for this activity.
- *Guide to Skilled Trade Jobs and Training in Michigan* produced by the Michigan Credit Union League. This guide provides detailed information about several high-demand jobs in Michigan including job descriptions, salary level, job outlook, education and training requirements and training locations. NOTE: Print a copy of this guide from the Michigan Credit Union League website to utilize during the classroom presentation, and then leave with the teacher for future student reference. Also consider leaving printed copies of the guide with interested students or with the school career center.

### Preparing for the Class

- Schedule your visit with the teacher and administrator before your presentation.
- Discuss the lesson outline that you are preparing to present.
- Discuss the lesson's objectives, reviewing the main points that you plan to make.
- Discuss discipline procedures that are in place in the classroom and ensure that the teacher will be present when you are giving your presentation.
- Make sure that students will have access to computers for this lesson.
- Review the lesson prior to your visit.
- Think about ways to connect the lesson to your own real life experiences.
- Review the skills assessment and make enough copies for the entire class.
- Make copies of the Career Scavenger Hunt for all students in the class.

## Objectives

Students will use technology to explore skilled trade careers and use those resources to complete a worksheet pertaining to a job that matches their personal skills.

## Presentation

- Greet the students.
- Be positive, friendly and enthusiastic.
- Give the teacher the opportunity to introduce you to the class.
- Give the students a brief description of the skilled trade education project and tell them that they will be using the internet to explore skilled trade careers that match their personal skills.
- If students have participated in the other lessons in this series, they will be researching one of the careers that matched their personal skills assessment results in lesson #3. If they have not completed the personal skills assessment, have them choose a career from the list below that they believe their personal skills would be suited for.
- Pass out and review the scavenger hunt worksheet below with the class and answer any questions such as where to find information. Let the students know how much detail to write and what to do when finished.
- Wander around the room as needed to answer any questions students may have and assist them with any computer questions that may arise.
- After about 20-25 minutes (or when students appear to be finished), ask students to sign off from their computers and turn in their worksheets.
- Engage students by discussing their research findings.

## Reflection

- Ask students to share some of the information that they obtained from their research.
- Discuss which websites were the most helpful for completing the scavenger hunt. (Were they surprised by anything? Is this a career that they would be interested in learning more about?)

## Benchmarks

C:B1.6 Learn to use the internet to access career planning information



## High-Demand Skilled Trade Jobs in Michigan

### The Manufacturing Cluster

- Welders
- Computer Numerical Control (CNC) Machine Tool Programmers
- Industrial Machinery Mechanics
- Computer Numerical Control CNC Machinists
- Tool and Die Makers

### The Health Care Cluster

- Nursing Aides, Orderlies, Attendants
- Pharmacy Technicians
- Dental Assistants
- Physical Therapist Assistants
- Home Health Aides

### The Agriculture Cluster

- Food Batch Makers
- Meat Packer
- Butchers and Meat Cutters
- Tree Trimmers and Pruners
- Landscaping and Groundskeeping Workers

### The Energy Cluster

- Heating, Ventilation, Air Conditioning and Refrigeration Mechanics
- Plumbers, Pipefitters and Steamfitters
- Electrical Power-Line Installer and Repairers
- Engineering Technicians
- Environmental Engineering Technician

### The Information Technology Cluster

- Computer Network Support Specialists
- Computer User Support Specialists
- Computer Programmers
- Database Administrators

## Career Scavenger Hunt

Use the following websites to answer questions for the skilled trade career that your group selected

United States Department of Labor Sites:

- CareerOneStop – [www.careerinfonet.org](http://www.careerinfonet.org)
- O\*Net OnLine – [www.onetonline.org](http://www.onetonline.org)
- Bureau of Labor Statistics – [www.Bls.gov](http://www.Bls.gov)

Other sites:

- [www.SchoolSoup.com](http://www.SchoolSoup.com)
- [www.CityTownInfo.com](http://www.CityTownInfo.com)

Skilled trade occupation name \_\_\_\_\_

Wage range \_\_\_\_\_

Forecasted growth through the year 2020 \_\_\_\_\_

Work environment \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Skills, knowledge and abilities required for this career \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Education and/or training requirements \_\_\_\_\_

\_\_\_\_\_