



# Experiential Learning Portfolio for 32414335 DC Electricity

## Student Contact Information:

Name: \_\_\_\_\_ Student ID# \_\_\_\_\_

Email: \_\_\_\_\_ Phone: \_\_\_\_\_

*It is highly recommended that you speak with the Academic Dean or instructor who teaches this course prior to completing a portfolio.*

## Directions

Consider your prior work, military, volunteer, education, training and/or other life experiences as they relate to each competency and its learning objectives. Courses with competencies that include speeches, oral presentations, or skill demonstrations may require scheduling face-to-face sessions. You can complete all of your work within this document using the same font, following the template format.

1. Complete the Student Contact Information at the top of this page.
2. Write an Introduction to the portfolio. Briefly introduce yourself to the reviewer summarizing your experiences related to this course and your future goals.
3. Complete each "Describe your learning and experience with this competency" section in the space below each competency and its criteria and learning objectives. Focus on the following:
  - What did you learn?
  - How did you learn through your experience?
  - How has that learning impacted your work and/or life?
4. Compile all required and any suggested artifacts (documents and other products that demonstrate learning).
  - Label artifacts as noted in the competency
  - Scan paper artifacts
  - Provide links to video artifacts
  - Attach all artifacts to the end of the portfolio
5. Write a Conclusion for your portfolio. Briefly summarize how you have met the competencies.
6. Proofread. Overall appearance, organization, spelling, and grammar will be considered in the review of the portfolio.
7. Complete the Learning Source Table. Provide additional information on the business and industry, military, and/or volunteer experiences, training, and/or education or other prior learning you mentioned in your narrative for each competency on the Learning Source Table at the end of the portfolio. Complete this table as completely and accurately as possible.

The portfolio review process will begin when your completed portfolio and Credit for Prior Learning Form are submitted and nonrefundable processing fees are paid to your local Credit for Prior Learning contact. Contact Student Services for additional information.

Your portfolio will usually be evaluated within two weeks during the academic year; summer months may be an exception. You will receive an e-mail notification regarding the outcome of the portfolio review from the Credit for Prior Learning contact. NOTE: Submission of a portfolio does not guarantee that credit will be awarded.

You have 6 weeks to appeal any academic decision. See your student handbook for the complete process to appeal.

**To receive credit for this course, you must receive “Met” on 10 of the 12 competencies.**

### **32414335 DC Electricity, 3 Technical Diploma Credits**

**Course Description:** This course is an introduction to electricity. The focus will be on direct current as used in industry. You will learn the basics of series, parallel and combination circuits. You will develop skills in circuit analysis, and electrical measurement using a digital multimeter.

**Introduction:** Briefly introduce yourself to the reviewer summarizing your experiences related to this course and your future goals.

**Competency 1: Explore atomic structure**

Criteria: Performance will be satisfactory when:

- you explain electron current flow
- you describe methods of producing electricity

Learning Objectives:

- a. Examine the law of charges
- b. Describe electron flow
- c. Classify methods of producing electricity

**Required Artifacts: None**

**Suggested Artifacts: None**

**Describe your learning and experience with this competency:**

**Met/ Not Met Evaluator Feedback:**

**Competency 2: Investigate electrical quantities and Ohm's law**

Criteria: Performance will be satisfactory when:

- you explain what a volt is
- you explain what a watt is
- you explain what an ohm is
- you calculate electrical quantities using Ohm's law

Learning Objectives:

- a. Examine conventional current theory
- b. Analyze the volt
- c. Analyze the ohm
- d. Analyze the watt
- e. Calculate electrical quantities using Ohm's law

**Required Artifacts: None**

**Suggested Artifacts: None**

**Describe your learning and experience with this competency:**

**Met/ Not Met Evaluator Feedback:**

**Competency 3: Analyze static electricity**

Criteria: Performance will be satisfactory when:

- you explain static electricity
- you explain useful static charges

Learning Objectives:

- a. Explain static electricity
- b. Examine static electricity in nature
- c. Describe nuisance static charges
- d. Describe useful static charges

**Required Artifacts: None**

**Suggested Artifacts: None**

**Describe your learning and experience with this competency:**

**Met/ Not Met Evaluator Feedback:**

**Competency 4: Discover magnetism**

Criteria: Performance will be satisfactory when:

- you explain magnetism
- you explain how an electromagnet works

Learning Objectives:

- a. Describe the electron theory of magnetism
- b. Examine magnetic lines of force
- c. Discuss electromagnets

**Required Artifacts: None**

**Suggested Artifacts: None**

**Describe your learning and experience with this competency:**

**Met/ Not Met Evaluator Feedback:**

**Competency 5: Analyze resistance in electrical circuits**

Criteria: Performance will be satisfactory when:

- you explain resistance
- you explain how a variable resistor works
- you draw the schematic symbol for a resistor

Learning Objectives:

- a. Discuss the uses of resistors
- b. Examine the Standard Resistance Values of Fixed Resistors
- c. Classify variable resistors
- d. Draw schematic symbols for resistors

**Required Artifacts: None**

**Suggested Artifacts: None**

**Describe your learning and experience with this competency:**

**Met/ Not Met Evaluator Feedback:**

**Competency 6: Analyze electrical quantities in a series circuit**

Criteria: Performance will be satisfactory when:

- you explain the characteristics of a series circuit
- you calculate series circuit values

Learning Objectives:

- a. Discuss the characteristics of series circuits
- b. Calculate series circuit values
- c. Use ground as a reference

**Required Artifacts: None**

**Suggested Artifacts: None**

**Describe your learning and experience with this competency:**

**Met/ Not Met Evaluator Feedback:**



**Competency 7: Analyze electrical quantities in a parallel circuit**

Criteria: Performance will be satisfactory when:

- you calculate parallel circuit values
- you explain the characteristics of a parallel circuit

Learning Objectives:

- a. Discuss the characteristics of parallel circuits
- b. Discuss voltage in a parallel circuit
- c. Discuss amperage in a parallel circuit
- d. Calculate parallel circuit values

**Required Artifacts: None**

**Suggested Artifacts: None**

**Describe your learning and experience with this competency:**

**Met/ Not Met Evaluator Feedback:**

**Competency 8: Analyze electrical quantities in a combination circuit**

Criteria: Performance will be satisfactory when:

- you explain the characteristics of a combination circuit
- you calculate combination circuit values

Learning Objectives:

- a. Discuss combination circuits
- b. Discuss voltage in a combination circuit
- c. Discuss amperage in a combination circuit
- d. Calculate electrical quantities in a combination circuit

**Required Artifacts: None**

**Suggested Artifacts: None**

**Describe your learning and experience with this competency:**

**Met/ Not Met Evaluator Feedback:**

**Competency 9: Explore the use of measuring instruments**

Criteria: Performance will be satisfactory when:

- you connect a meter to measure voltage in a circuit
- you connect a meter to measure amperage in a circuit
- you connect a meter to measure resistance in a circuit
- you explain the uses of oscilloscopes for measuring electrical quantities in a circuit

Learning Objectives:

- a. Identify meter types
- b. Connect a meter to measure voltage
- c. Connect a meter to measure amps
- d. Connect a meter to measure resistance
- e. Discuss the uses of an oscilloscope

**Required Artifacts: Video demonstrating connecting a meter to measure voltage, amps, and resistance**

**Suggested Artifacts: None**

**Describe your learning and experience with this competency:**

**Met/ Not Met Evaluator Feedback:**

**Competency 10: Examine electrical conductors**

Criteria: Performance will be satisfactory when:

- you explain the use of a wire size selection chart
- you identify wire sizes

Learning Objectives:

- a. Discuss wire sizes
- b. Identify wire sizes
- c. Select proper wire size from a table
- d. Discuss insulation materials

**Required Artifacts: None**

**Suggested Artifacts: None**

**Describe your learning and experience with this competency:**

**Met/ Not Met Evaluator Feedback:**

**Competency 11: Identify batteries for small electrical source**

Criteria: Performance will be satisfactory when:

- you explain the differences of primary and secondary cells
- you explain how to specify a battery
- you explain the battery charging process

Learning Objectives:

- a. Discuss primary cells
- b. Discuss secondary cells
- c. Examine battery specifications
- d. Describe the battery charging process

**Required Artifacts: None**

**Suggested Artifacts: None**

**Describe your learning and experience with this competency:**

**Met/ Not Met Evaluator Feedback:**

**Competency 12: Examine other small sources of electricity**

Criteria: Performance will be satisfactory when:

- you explain how light can be used to produce electricity
- you explain how thermocouples can be used to measure temperature
- you explain how pressure can be used to produce electricity

Learning Objectives:

- a. Discuss how electricity is produced by light sources
- b. Describe the use of thermocouples to measure temperature
- c. Describe how pressure can be used to produce electricity

**Required Artifacts: None**

**Suggested Artifacts: None**

**Describe your learning and experience with this competency:**

**Met/ Not Met Evaluator Feedback:**

