

Minnesota Articulated College Credit (ACC) Agreement

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Agreement Name: **Automotive Basic Electrical**

Agreement Last Reviewed: Fall 2024

Next Review Date: Fall 2026

College Courses			
Class	Title	School	Credits
TRAN 1111	Electrical Fundamentals	Minnesota West Community & Technical College	1.0 of 3.0
AUTO 1162	Electrical Systems 1	Ridgewater College	1.0 of 2.0
		AND	
AUTO 1364	Electrical Systems 2	Ridgewater College	1.0 of 4.0
MEAG 1500	Facility Maintenance	South Central College	1.0 of 3.0
AST 1212	Basic Electrical	South Central College	1.0 of 2.0
AMT 1720	Electrical Theory	Rochester Community & Technical College	1.0 of 2.0

Curriculum Content Objectives

To receive credit, students will perform 80% of the following content objectives:

1. Demonstrate professional automotive technician behavior, acceptable attendance and demonstrate shop safety.
2. Explain and demonstrate electrical safety procedures.
3. Define electrical terms.
4. Identify electrical symbols, components, and controls.
5. Calculate series, parallel, and series-parallel using Ohm's Law.
6. Measure series, parallel, and series-parallel using Ohm's Law.
7. Define the basic principles of magnetism and the principle of generation.
8. Demonstrate test light use.
9. Demonstrate and interpret Digital Multi-Meter (DMM) readings.
10. Demonstrate soldering techniques.
11. Replace terminals and connectors.
12. Construct electrical circuits.
13. Measure voltage, amperage, and resistance in electrical circuits.
14. Identify wiring diagram component locations.
15. Identify circuit controls.
16. Explain circuit problems.
17. Trace circuits.
18. Identify wire gauge size and circuit protection.
19. Test diode operation.
20. Explain transistor operation.
21. Identify Integrated Circuit (IC) protection procedures.
22. Perform battery safety, testing, diagnostics, and charging.
23. Identify and test for parasitic drain.

Assessments

To receive ACC, students must achieve no less than 80% or B for a final grade in the high school course. SP2 certification may be used for the safety portion of the course. For partial earned college credits, students must take the course at the college with a tuition discount.

ACC Concept

Through Articulated College Credit (ACC), specific college curriculum content goals and assessments are embedded in participating high school career and technical education (CTE) programs as specified in this agreement. Relevant knowledge, skills, and standards are taught by qualified CTE high school instructor(s) in one or more high school courses. ACC is awarded if the student meets the college equivalency standards and later enrolls in the college(s) listed below requiring the course in a specific program.