

# **Copper Country Intermediate School District**

## **Automotive Technology Course Syllabus**

### **Electrical Systems – ASE Standards**

- Instructor:** Ken Wilcox
- Paraprofessional:** Jeff LaMuth
- Phone:** 906-482-8938
- Email:** kwilcox@copperisd.org
- Office Hours:** Monday through Friday, 12:30-1:30 P.M. or by appointment
- For reporting or excusing absences:** All absences reported and excused through the student's sending school.
- College Credit:** **Articulated college credit is available through Bay DeNoc Community College, Gogebic Community College, Northern Michigan University and Ferris State University.**
- Accreditations:** This is a NATEF-certified program. For more information see: [www.natef.org](http://www.natef.org).
- Class Times:**
- |           |                         |
|-----------|-------------------------|
| Block I   | 8:00 A.M. - 9:45 A.M.   |
| Block II  | 10:20 A.M. - 12:00 P.M. |
| Block III | 1:30 P.M. - 3:15 P.M.   |

#### **First Semester - Module #1 Course Description:**

This module will start with a recap of all basic safety procedures. The purpose of this module is to develop a knowledge and understanding of automotive electrical / electronic systems, applications, functions, operation, and diagnostic procedures. This will include a detailed instruction of electrical system diagnosis, battery diagnosis and service, starting system diagnosis and repair, charging system diagnosis and repair, lighting system diagnosis and repair, gauges and electrical accessories.

#### **Second Semester - Module #1 Course Description:**

The purpose of this module is to develop a basic knowledge and understanding of automotive engine performance and drivability systems and service procedures. We will accomplish this through the use of demonstrations, classroom activities, and student hands-on lab activities.

#### **Additional Information:**

- Safety glasses will be provided and *must* be worn by the students at all times while in the lab.
- All modules will incorporate a variety of applied academics.
- Lockers will be assigned.

**Textbook Used:** Automotive Excellence; Glencoe/McGraw-Hill Publishing

### **Lab Sheets:**

The instructor supplies lab sheets in sequence with course content. Lab sheets are self-paced; although, it is your responsibility to properly manage your time in order to complete all lab assignments by their deadline. Unless otherwise noted, students may perform their lab assignments in groups, with a MAXIMUM of two people per group. Each student must have their own lab sheet. The student must also complete all questions on the lab sheet and the instructor must sign each lab sheets before credit is given for the task performed.

### **Exams:**

One exam will be given at the end of each semester, along with various tests and quizzes given throughout each module.

### **Grading System:**

- Skill Achievement Projects 40%
- Written Test and Quizzes 30%
- Attitude 20%
- Attendance 10%

*See student hand book for further details.*

### **Grading Scale:**

100-96 = A	76-73 = C
95-90 = A-	72-70 = C-
89-87 = B+	69-67 = D+
86-83 = B	66-63 = D
82-80 = B-	62-60 = D-
79-77 = C+	59- 0 = E

### **Applied Technology/Software:**

- ALLDATA Electronic Service Manual
- ALLDATA Service Center Automotive Billing and Shop Management Software
- Wireless mobile computer lab
- Diagnostic equipment displayed live in a classroom setting

## Automotive Technology Course Content

*(Schedule may be modified upon the instructor's discretion.)*

<b>Week</b>	<b>Topic</b>	<b>Lab sheets / Assignment</b>
1-3	Avoiding accidents, electrical safety, fire safety, MSD data sheets, safety quiz, and electrical diagnostic tools intro.	Lab safety treasure hunt
4-6	General Electrical System Diagnosis + Task demo's Quiz	Check amps, volts, ohms with DVOM, use test light + electrical schematics.
7-9	Battery Diagnosis and Service + Task demo's Quiz.	Battery testing (VAT 40) and terminal reconditioning + charging and jump starting.
10-12	Starting and Charging System Diagnosis and Repair + Task demo's Quiz	Starter testing (VAT40), voltage drop, rebuild starter. Alternator testing (VAT40), voltage drop, rebuild alternator.
13-15	Deer season/reduced class size. Goodwill Farm inspection sheet lesson and demo	Continue previous tasks and work on Goodwill Farm vehicles
16-18	Lighting System Diagnosis and Repair + Task demo's Quiz	Diagnose inoperative lighting components task sheet
19-21	Gauges and Electrical Accessories + Task demo's Quiz	Diagnose inoperative horn, wiper, windshield washer, motor-driven accessory circuits, heated glass, electric lock, cruise control system, radio components and circuits tasks sheet.
22-24	Basic engine operation, intro to fuel and ignition systems Detailed schedule to be announced	To be announced
25-27	Advanced Fuel and ignition systems lesson + demo, test	To be announced
28-30	Test equipment, DMM's, DSO's, computer diagnostic scan tool. + demo, test	To be announced
31-33	Mock-up interviews. exam review / final exam Detailed schedule to be announced	Continue previous lab sheets. finish portfolios. Participate in mock-up interview.
34-36	Open lab / tasks / make-up work / wheels cars / cook out / shop clean up. Detailed schedule to be announced	None

