

# NPCC Tech

## 2024 Test Descriptions

**Session 1: 8:45-10:15**

**Session 2: 10:30-12:00**

**\*Please note that all tests are offered during both sessions except for Building Construction**

### Auto Body

Auto Body Shop Rm 605C

1. No limit on participants per school – max of 20 students per session
2. Test format: Multiple Choice & tool identity
3. **MUST bring Safety Glasses**

Painting, refinishing, and general body questions as well as an “identify the tool” section, will be covered in a multiple-choice test. Once students are done taking this test they can observe in the Auto Body shop as the MPCC Auto Body students will be working on projects.

### Auto Mechanics

Auto Shop Rm 303

1. No limit on participants per school – max of 16 students per session
2. Testing format: Multiple Choice & Hands-on Testing
3. **Students MUST bring their own safety glasses, all tools needed will be provided**

This knowledge based event will be comprised of a written test and several hands-on testing stations. The test covers basic knowledge of gas engine components and troubleshooting & repair. Hands-on testing stations may consist of adjusting valves, precision measurements using special tools, disc brake component identification, electrical circuits and volt/ohm measurements, and basic hand tool identification.

### Diesel Mechanics

Diesel Shop Rm 600

1. No limit on participants per school – max of 20 students per session
2. Testing format: Multiple Choice & Hands-on Testing
3. **Students MUST bring their own safety glasses, all tools needed will be provided**

This learning opportunity will be comprised of a written test and several hands-on testing stations. The test covers basic knowledge of diesel engine components, 12v electrical systems, heavy duty steering, suspension and air brakes. Hands-on testing stations will consist of precision measurements using special tools, electrical circuits and volt/ohm measurements, diesel engine component identification, and steering and air brakes component identification.

### Electrical Technology

Electrical Shop Rm 701A

1. No limit on participants per school – max of 15 students per session
2. Testing format: Multiple Choice, True/False, Mock-up Project
3. **Students MUST bring their own safety glasses AND hand tools.**

This test will be comprised of a computer test and a hands-on mock-up project each counting for 50% of student’s score. The computer test will cover basics of electrical theory and residential wiring in multiple choice and true/false questions. The mock-up will test students on the basics of residential wiring. Tools recommended for the contest are: wire strippers, tape measure, hammer, lineman pliers, screwdrivers, and calculator.

## **HVAC/Refrigeration**

**Rm 401, 401B**

1. No limit on participants per school – max of 15 students per session
2. Testing format: Multiple Choice, True/False, and Matching
3. **Students MUST bring their own calculator AND safety glasses**

The basics of HVAC/Refrigeration will be covered in a multiple choice, true/false and matching paper test. This will include the refrigeration cycle, components, electric motors, ohms law, heat transfer, and piping. After the written test there will be hands-on labs for the students to learn copper tube swedging, silver brazing, and motor winding check-out using volt/ohm meters. Students will spend 30-45 minutes on the test and 30-45 minutes in the lab.

**WELDING TESTERS: Please dress appropriately for welding.**

**No sandals or flip flops allowed during testing**

## **Welding and Metals**

**Room 407**

1. Schools will be assigned Divisions based on school welding programs
2. Limit of 4 students per school - Max 30 students per session
3. Test format: Hands-on
3. Supplies: **Students will need to bring their own PPE** (safety glasses, welding helmet, welding coat, gloves, etc.) They will also need to bring with them a pair of pliers.

This test is designed for students in your advanced welding class wishing to pursue welding in college.

Students will do hands-on testing in each of the following areas: Arc, MIG, and TIG. **Students MUST bring their own safety glasses AND Welding Gear**

**EXTENDED SESSION:**

**TESTERS SHOULD NOT REGISTER FOR OTHER TESTS**

## **Building Construction**

**8:45-11:30**

**Room 409**

1. One team per school – Max 4 students per team – Max limit of 10 teams
2. Test format: Hands-on project
3. **Students MUST bring own safety glasses and are encouraged to bring personal power tools to avoid waiting**

Teams of up to four students will be tested on basic construction techniques in putting together a project that is comparable to their high school classroom projects. Priority will be given to first 10 teams to sign up from different schools. IF 10 teams are not formed, a school may enter a 2<sup>nd</sup> team.