

**2020 MICHIGAN SKILLS USA CHAMPIONSHIPS
TASK & MATERIALS LIST**

SKILL OR LEADERSHIP AREA: HVACR

CONTEST LOCATION:

Grand Rapids Community College
Applied Technology Center (ATC)
151 Fountain NE
Grand Rapids, MI, US
(616) 234-GRCC

RESUME:

Each student must submit a one-page printed resume before the contest start at the contest site (present to contest coordinator, not judges). The resume is no longer submitted online. This is the only time that resumes can be turned in. Failure to do so will result in a 10 point penalty.

TASKS TO BE PERFORMED:

- Written examination to include technical and/or SkillsUSA knowledge.
- Forming, soldering, flaring with oxy-acetylene or turbo torch.
- Control and component identification.
- Compressor analysis and identification.
- Drawing of diagrams and schematics (across the lines) of commercial, domestic or air-conditioning units.
- Refrigerant recovery.
- Service troubleshooting (diagnosis of electrical and/or mechanical)
 - Air flow measurements
 - Window air conditioners
 - Self-contained air conditioners
 - Roof-top air conditioners, heating units
 - Commercial refrigeration units, walk-ins and display cases, air or water cooled
 - Split air conditioners
 - Gas and/or oil furnaces
 - Ice machines

STUDENTS MUST SUPPLY:

- Hand tools
- Manifold gauges R410 Compatible
- Safety glasses with side shields or goggles
- Work shoes (No Athletic Type)
- Volt-amp meter
- Ohmmeter
- Refrigeration wrench
- Temperature tester or dial thermometer
- #2 pencil

- No jumper wires
- Calculator
- Resume – 1 page

RULES AND REGULATIONS:

1. Safety glasses **with side shields** must be worn while in laboratory area.
2. All contestants must wear appropriate work shoes.
3. All contestants must wear proper work attire without school ID.
4. Contestants who do not have safety glasses and work shoes will be barred from the competition. **(NO EXCEPTIONS)**
5. No cellphones.

Revised 1/8/20

SCORECARD Heating Ventilation Air Conditioning and Refrigeration

| Items Evaluated | Possible Points | Contestant Number | | |
|---|-----------------|-------------------|--|--|
| | | | | |
| Air-flow in C.F.M. | 100 | | | |
| Refrigeration-Troubleshooting | 100 | | | |
| Furnace Troubleshooting | 100 | | | |
| Split-System Troubleshooting Electrical | 100 | | | |
| Split-System Troubleshooting Mechanical | 100 | | | |
| Pump-down and Change Drier | 100 | | | |
| Soldering/Brazing | 100 | | | |
| Compressor Analysis & I.D. | 100 | | | |
| Refrigerant Recovery | 100 | | | |
| Component I.D. | 100 | | | |
| | | | | |
| Résumé Penalty | 0 or -10 only | | | |
| Clothing Penalty | 0 to -50 | | | |
| | | | | |
| | | | | |
| Total Possible Points | 1000 | | | |

Date:

Judges' Signatures:
