2019 STATE TECHNICAL STANDARDS
FOR USE AT THE 2019 MASSACHUSETTS SKILLSUSA CHAMPIONSHIPS
Here is where you can find answers to your questions.

This year, binders and scrapbooks must be picked up at the Conference Information Booth Saturday morning before the Award Ceremony begins.

We assume no responsibility with returning any binders or scrapbooks after the conference.
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- Contests in RED are events where participants can also be registered as Delegates at State Conference. SkillsUSA Massachusetts HIGHLY RECOMMENDS registering contestants in these events as delegates to insure a full day of active, quality participation at the State Conference.

- These contests do not continue on to National competition.

- These contests do not continue on to National competition, but gold medal winners are invited to attend as National Voting Delegates.
CONTACT INFORMATION

Host Sites:

Blackstone Valley Technical High School
65 Pleasant Street
Upton, MA. 01568
508-529-7758

Joseph P. Keefe Technical HS
750 Winter Street
Framingham, MA 01702
(508) 879-5400
Host Site for Graphic Communications, Screen Print Technology, Graphic Imaging Sublimation (limited Demonstration) and Painting & Design Technology

Site Coordinator:

Thomas Belland, Vocational Coordinator
Cyra Hathaway, Vocational Curriculum Coordinator
Blackstone Valley Technical High School
65 Pleasant Street
Upton, MA. 01568

508-529-7758 ext. 3412  Email: tbelland@valleytech.k12.ma.us
508-529-7758 ext. 3015  Email: chathawa@valleytech.k12.ma.us

SkillsUSA Championships Director:

John Brochu, Director
SkillsUSA Championships
JP Keefe Technical High School
750 Winter Street
Framingham, MA 01702

508-416-2255
Email: jbrochu@jpkeefehs.org

Executive Director:

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250 Foundry Street
South Easton, MA 02375

508-230-1273
Email: kward@maskillsusa.org

Computer Operation Director/Registration:

Carol Olsen
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Rochester, NH 03867

774-238-0513
Email: carollandryolsen@gmail.com
ALL CONTESTS WILL REQUIRE COMPETITORS TO BRING A ONE-PAGE, TYPEWRITTEN RESUMÉ
TO BE DELIVERED TO THE TECHNICAL COMMITTEES AT THE COMPETITION ON FRIDAY.
(SEE IF YOUR RESUMÉ IS REQUIRED FOR THE BRIEFING MEETINGS ON THURSDAY EVENING.)

Joe Student
123 Main Street • West Anytown, MA 01234
Home (508) 123-4567 • Cell (774) 123-4567 • jstudent@gmail.com

Career Objective: To work within the field of Marine Service Technology, so I may be able to contribute in a professional manner.

Education & Training:
Currently attending Anytown Regional Technical High School • Anytown, MA
September 2014 - Present
Marine Service Technology student for four full years
Focused on all aspects of the industry within shop and theory classes using a hands-on approach to learn

Work Experience:
Co-operative Education at Ocean Marine • Beachside, MA
September 2015 - Present
Responsible for installing electronic equipment on new and used boats
Troubleshoot and repair problems within electronic and digital equipment on boats
Service and repair boats engines, including inboard, outboard as well as back-up engines
Troubleshoot and repair problems within engine and electrical systems on boats
Focused on customer service needs and customer satisfaction

Internship at Seaward Boatyard • Watertown, MA
May & June 2015
Responsible for launching boats for the summer season
Serviced and prepared boats for launch, based on customer needs and launch schedule

Other Experience:
Baseball Player
Anytown Middle School • Watertown, MA
2013
Anytown High School, Junior Varsity Team • Watertown, MA
2014 & 2015
Senior Babe Ruth Team • Watertown, MA
2015 - 2016
Anytown High School, Varsity Team • Watertown, MA
2016 & 2018

Professional Member:
National Honor Society member
September 2016 - Present
Created Community Service project for members to work on
Attended Leadership Training program offered through the Anytown Sheriff’s Department
Sold Yankee Candle items for the Honor Society Fundraiser

SkillsUSA member
September 2014 - Present
Participated in Fall State Leadership Conference during my junior year
Competed in Marine Service Technology Competitions at both the District and State levels as a junior
Competed in Marine Service Technology Competition at the District level senior year

Marine Service Technology Advisory Committee member, student representative
September 2015 - Present
Discussions include various technical framework updates and assessment standards for the Certificate of Occupational Proficiency
Organized classmates each year to represent our shop during our Open House Event

Accomplishments:
MVP Award for Baseball, from Anytown Middle School
June 2013
SkillsUSA silver medalion for Marine Service Technology District competition
March 2016
SkillsUSA bronze medal for Marine Service Technology State competition
May 2016
MVP Award for Varsity Baseball, from Anytown Regional Technical High School
June 2017

References: Kevin Smith, Anytown High School, Marine Service Technology Instructor (508) 123-4567 ext. 321
Lisa Jones, Anytown High School, English Instructor (508) 123-4567 ext. 123
Joe Handy, Service Manager, Ocean Marine (508) 987-6543
1. Theme

The SkillsUSA competition theme for the 2018-19 year is: **SkillsUSA: Champions at Work - Career-Ready Starts Here.**

The SkillsUSA competition theme is used throughout the year as the topic to be addressed by contestants in the Chapter Display, Prepared Speech and Promotional Bulletin Board competitions at local, state and national levels.

The topic to be addressed by contestants in the Chapter Display, Prepared Speech and Promotional Bulletin Board competitions is how our theme, “SkillsUSA: Champions at Work, Career-Ready Starts Here.” addresses the SkillsUSA program of work in the area of professional development.

Within this topic, contestants might illustrate or discuss any of the following:

- What can you specifically point to within your SkillsUSA chapter that demonstrates Career-Ready Starts Here?
- What can you specifically point to within your career and technical education program that demonstrates Career-Ready Starts Here?
- Using Career-Ready Starts Here, what would you say to students to convince them to join SkillsUSA?
- Using Career-Ready Starts Here, what would you say to campus administrators to convince them to support SkillsUSA?
- How is the SkillsUSA Framework of developing personal, workplace and technical skills central to the concept of Career-Ready Starts Here?
- Which SkillsUSA programs ensure that members are developing the personal skills needed to be career-ready?
- Which SkillsUSA programs ensure that members are developing the workplace skills needed to be career-ready?
- Which SkillsUSA programs ensure that members are developing the technical skills needed to be career-ready?
- What areas of the SkillsUSA program of work have assisted you in becoming career-ready?
- What are the specific skills and abilities that a member possesses when career-ready?
- How will you demonstrate to an employer that you are career-ready?
- How does your career and technical education program emulate the workforce?
- What are your next steps in ensuring you are career-ready?

2. Insuring Success: Make sure every contestant reviews their contest(s); scope, tooling requirements, clothing requirements, etc., as there are penalties in place for non-compliance in every competition.

3. T-shirt Requirement: For every contest that has a clothing requirement specifying SkillsUSA Massachusetts T-shirt, the T-shirts will be distributed to chapter advisors during registration. Every participant at the conference will receive a conference T-shirt. **Make sure competitors get one that fits**, as not all students compete in their shirt.

4. Official SkillsUSA Attire: Participants are expected to wear SkillsUSA attire or professional dress to the Opening and Award Ceremonies. **The Massachusetts State Conference options include the SkillsUSA windbreaker and jacket, shown on page 8. See page 9 for clarification of other items.**

“SkillsUSA official attire” as indicated for specific contests refers to the following:

For men: Official blazer or jacket, black trousers with white dress shirt, plain black tie with no pattern (or official SkillsUSA black tie from: www.skillsusastore.org), black socks and black shoes.

For women: Official blazer or jacket, black slacks or knee-length skirt with businesslike white, collarless blouse or white blouse with small, plain collar that may not extend onto the lapels of the blazer, black sheer or skin-tone seamless hose and black dress shoes.

Note: All personal jewelry should contribute to a businesslike appearance. Only official SkillsUSA jewelry is to be worn on a SkillsUSA blazer, jacket or sweater. Official jewelry is described as conference pin, SkillsUSA emblem, officer pin, President’s Volunteer Service Award pin, statesman pin (one only) and professional development (one only) pin.
No canvas, vinyl, plastic or leather athletic type shoes, open-toe shoes or open-heel shoes are permitted in any SkillsUSA Championships event without penalty. Contestants may be disqualified where improper footwear constitutes a health or safety hazard. When work boots/shoes are required, they can be steel-, or non-steel-toed, tied or pull-on (Roper-type, no cowboy boots), with rubber or skid-resistant soles, and they must meet the specifications of The Occupational Safety and Health Administration (OSHA) OSH Act of 1970; United States Code Title 29, Chapter 15, states:

The OSH Act was established to ensure safe and healthful working conditions for every working man and woman. Among the many provisions, the act requires the use of personal protective equipment (PPE) to reduce employee exposure to hazards when engineering and administrative controls are not feasible or effective in reducing these exposures to acceptable levels. OSHA’s personal protective equipment standard, 1910.132 (d)(1), requires that employers “assess the workplace to determine if hazards are present or are likely to be present, which necessitate the use of personal protective equipment.” OSHA 29 CFR 1910.136 incorporates the following industry standards by reference: the American Society for Testing and Materials — ASTM F2412-05 Standard Test Methods for Foot Protection, F2413-05 Standard Specification for Performance Requirements for Protective Footwear and the American National Standards Institute (ANSI) American National Standard for Personal Protection — Protective Footwear (ANSI Z41-1999 and Z41-1991).

Eye protection must meet ANSI Z87 requirements. Prescription and nonprescription safety glasses must include side shields designed for the safety glasses by the manufacturer of the eye protection. An imprint with the mark “Z87” will appear on the frame or lens to identify the safety glasses as meeting ANSI Z87 requirements. Approved safety goggles may also be worn to meet these eye protection requirements.

Contestants with long hair that poses a possible safety or sanitary hazard must wear hair containment devices (hair nets)

Contestants may be disqualified for lack of safety clothing or attire.

The wearing of accessory items (such as belts) is optional unless otherwise specified in the contest rules.

No identification of the contestant, school is allowed on official clothing.

Check for specific clothing and safety requirements under the guidelines for each contest.

**AVOID** the following: Black leggings, black jeans, short skirts, open-toe shoes, heels taller than two inches, excessive jewelry, displaying name/school on the jacket.
IMPORTANT NOTES Continued

Visual samples for clarification of state contest requirements

Women's Black Dress Shoes: (Other colors are acceptable with professional dress)

These shoes are not all black and are taller than a 2" heel.

Men's Black Dress Shoes: (Other colors are acceptable with professional dress)

These shoes are not all black.

Safety Shoes (some contests require all white or all black):

These may not meet safety standards.

Safety Boots (some contests require leather work boots):

These boots not meet standards.

Safety Glasses, Goggles & Shields (contest details define which is required):

Welding Goggles do not take the place of additional goggles.
BUILDING TRADES A

SERIES DIRECTOR:
NOEL LAMOTHE

CONTACT INFORMATION:
TANTASQUA RHS
320B BROOKFIELD ROAD
FISKDALE, MA 01518
(508) 347-7381
lamothen@tantasqua.org

EVENTS:

ELECTRICAL CONSTRUCTION WIRING
Briefing: Princess Ballroom
Competition: Blackstone - 210C, 208C
Event Manager: Tom Donahue

INDUSTRIAL MOTOR CONTROLS
Briefing: Princess Ballroom
Competition: Blackstone - 209C, 208C
Event Manager: David Barboza

MAJOR APPLIANCE TECHNOLOGY
Briefing: Princess Ballroom
Competition: Blackstone - Plumbing—070C, 081C
Event Manager: Steve Folkes

MASONRY
Briefing: Princess Ballroom
Competition: Upton Highway Barn
Event Manager: Lawrence Bradley
INDUSTRIAL MOTOR CONTROL CONTEST

 Requirements and Scope of Contest

Clothing Requirements: failure to do so will result in a clothing penalty
- Khaki work pants, as shown
- Leather work boots
- SkillsUSA Massachusetts T-Shirt, provided
- Safety glasses
- Hard hat
- NO cell phones allowed
- NO loose/long hair (must be secured)
- NO loose clothing
- NO jewelry
- NO sneakers

Safety: avoid a safety violation or being removed from the contest

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- ½” EMT bender
- Diagonal pliers
- Side cutters
- Long-nose pliers
- Pump pliers
- Wire strippers
- Knife
- Assorted flat blade & Phillips
- Measuring tape
- Hacksaw
- Claw hammer
- Electrical tape and connectors
- Torpedo level
- Multimeter
- Crimping tools
- Fuse pullers
- Scratch Awl
- Roto-splitter
- Supplies for drawing ladder diagrams (pencil, straightedge, etc.)
- Calculator (NO electrical specific calculators)
- Latest edition of MA Code Book (NO code handbooks allowed)

CORDLESS DRILLS WILL BE ALLOWED for the 2019 competition
(Note: NO electrical screwdrivers allowed)

National Skills:
Contestants will be given job sheets with schematic diagrams and accompanying requirements for wiring an industrial motor control installation. All work must conform to the specifications of the latest edition of the National Electrical Code as of January prior to the SkillsUSA Championships. Contestants will demonstrate their ability to perform jobs or skills selected from the list of competencies as determined by the SkillsUSA Championships Technical Committee. These will include: safety, use of tools and equipment, calculations, trade information, install raceways and enclosures, install and connect switches, buttons and lights. You will also be required to complete wiring or ladder diagrams, troubleshoot a control fault using a multi meter, and a written test referencing the current NEC code.

State Skills:
All aspects of the contest will focus around industrial motor control and include some of the aspects of the National Event. The project will use a variety of wiring methods and be mounted on a simulated finished wall. It may include a disconnect switch, a controller or starter, and various automatic or manual controls. These items may be connected to a trough using short offset nipples. The project will evaluate each contestant’s preparation for employment and to recognize outstanding students for excellence and professionalism in the field of industrial motor controls.
MAJOR APPLIANCE TECHNOLOGY CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
- Khaki work pants, as shown
- Work shoes
- Safety glasses
- SkillsUSA Massachusetts T-Shirt, provided
- NO cell phones allowed

Safety: avoid a safety violation or being removed from the contest
- NO loose/long hair (must be secured)
- NO loose clothing
- NO jewelry
- NO sneakers

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- Screwdrivers
- Only socket needed will be 1/4”
- VOM
- 1/4” & 5/16” nut driver
- Small putty knife
- Vice Grips
- Voltage/ohm Meter or Amp Meter w/ohms
- Wire cutters
- Wire Stripper
- Pliers Regular and needle nose

State Skills:
Using eight appliances with a bugged failure, the students will be observed to see if they;
- Use customer relations skills to interact with a “customer”.
- Have and use all safety equipment.
- Show proper respect for the customer and the product and surroundings.
- Inspect the failed appliance using the facts they receive from us (the customer) validate the complaint.
- Determine probable cause, if any, and consider if electrical, mechanical or both has failed.
- Use a multi-meter to test for voltage, continuity and resistance.
- Use a wiring diagram to trace circuits.
- Use mechanical skills to access components for testing.
- Show proper use of basic hand tools.
- Use their senses to determine product failure.
- Return product to same condition as found.
- Explain failure and corrective actions to the “customer” in detail using proper verbiage.
- Review resume with a “hiring manager”.
- Score appropriately on diagnosis, times to service, explanation of failure and repair, resume.
MASONRY CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
- Khaki work pants, as shown
- Leather work boots
- Safety glasses
- SkillsUSA Massachusetts T-Shirt, provided
- Hard hat
- NO cell phones allowed
- Safety: avoid a safety violation or being removed from the contest
- NO loose/long hair (must be secured)
- NO loose clothing
- NO jewelry
- NO sneakers

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- Tool bag
- Brick spacing rule
- 4’ Level
- 2’ Level
- Modular rule
- Flat jointer ½”
- 2 - Line blocks with line
- 2 - Line pins
- Convex jointer ½” x 5/8”
- Brush
- Trowel
- Brick hammer
- 2’ framing Square
- Pencil
- Brick set

National Skills:
While production is very important, quality workmanship is vital. The students will be expected to construct a composite brick & block project in a six-hour period that will test their ability to meet industry standards in quality. In addition to a written exam, the critical eye of journeyman judges will be the deciding factor in determining the winners. The contest project will include components of the most frequently used details in residential construction.

State Skills:
The contest will involve brick and block composite wall construction. Participants in this contest will be judged on their ability to follow correct masonry design and procedures. All contestants will be assessed on neatness, safety, production, manipulation, and adherence to masonry construction building standards. All contestants must dismantle their projects after the judges have finished scoring. All contestants must stay and clean the entire building site as required by the event manager. Any student not participating in site clean up will lose points on his/her final score.

SkillsUSA Score Sheet

<table>
<thead>
<tr>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct Design</td>
</tr>
<tr>
<td>Block Height</td>
</tr>
<tr>
<td>Level</td>
</tr>
<tr>
<td>Plumb</td>
</tr>
<tr>
<td>Range</td>
</tr>
<tr>
<td>Brick Height</td>
</tr>
<tr>
<td>Level</td>
</tr>
<tr>
<td>Plumb</td>
</tr>
<tr>
<td>Range</td>
</tr>
<tr>
<td>Modular Spacing</td>
</tr>
<tr>
<td>Square</td>
</tr>
<tr>
<td>Full and Uniform Joints</td>
</tr>
<tr>
<td>Neatness</td>
</tr>
<tr>
<td>Production</td>
</tr>
<tr>
<td>Manipulation</td>
</tr>
<tr>
<td>Joint Finish</td>
</tr>
<tr>
<td>Safety</td>
</tr>
<tr>
<td>Masonry Reinforcement</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
<tr>
<td>Clean up Penalty</td>
</tr>
</tbody>
</table>
ELECTRICAL CONSTRUCTION WIRING

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
- Khaki work pants, as shown
- Leather work boots
- SkillsUSA Massachusetts T-Shirt, provided
- Safety glasses
- Hard hat
- NO cell phones allowed
- NO loose/long hair (must be secured)
- NO loose clothing
- NO jewelry
- NO sneakers

SkillsUSA Massachusetts T-Shirt, provided

Safety: avoid a safety violation or being removed from the contest
- Hard hat
- NO cell phones allowed
- NO loose clothing
- NO jewelry
- NO sneakers
- NO loose/long hair (must be secured)
- Safety glasses
- Leather work boots

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- 1 - ½” EMT bender
- 1 - Scratch awl
- 1 - Roto splits
- 1 - Hacksaw
- 1 - Tool box w/lock
- 1 - Electricians knife
- ½” Spade bit
- Assorted wood chisels ¼” to 1”
- 1 - Current Massachusetts Code Book (NO Code handbooks allowed)
- 1 - Scientific calculator (NO electrical specific calculators)
- CORDLESS DRILLS WILL BE ALLOWED for the 2019 competition

National Skills:
- Contestants in residential wiring are tested on their ability to install wiring in a residence or light commercial installation, working from drawings and specifications sheets. Professional electricians judge the contestants on the basis of general workmanship, accuracy of layout and installation, adherence to National Electrical Code and safety. The test consists of two parts—conduit bending and the simulated wiring of two or more rooms of a typical residence. The wiring will be judged according to standard residential and commercial wiring practices, and the current edition of the National Electrical Code.

State Skills:
- All aspects of the contest will center on residential or light commercial installations. The project will be wired in a simulated wall sections, either studs or finished wall. Students may be asked to trouble shoot an existing circuit using a multimeter and repair/replace problems with devices. The project may consist of the following methods: Romex, BX, EMT, Conduit, Wiremold, PVC, ENT, Bell Wire, Cat 5, and Cat 6 Cabling. Contestant projects will be judged on workmanship, accuracy, speed, adherence to the current Massachusetts Electrical Code, and other requirements as applied to the project.
SERIES DIRECTOR:
RAY MAHON

CONTACT INFORMATION:
BAY PATH RVTHS
57 MUGGETT HILL ROAD
CHARLTON, MA 01507
(508) 769-5728
rmahon@baypath.net

EVENTS:

CABINETMAKING
Briefing: Princess Ballroom
Competition: Blackstone - Carpentry 330C, 340C
Event Manager: Christopher Ward

CARPENTRY
Briefing: Princess Ballroom
Competition: Blackstone - Old Gym 750B, 340C
Event Manager: Andrew Mcullough

HVAC & REFRIGERATION
Briefing: Princess Ballroom
Competition: Blackstone - 110D, 111D
Event Manager: Chris Faucher

PLUMBING
Briefing: Princess Ballroom
Competition: Blackstone - 080C, 071C
Event Manager: Wayne Little
# Cabinetmaking Contest

## Requirements and Scope of Contest

### Clothing Requirements:

Failure to do so will result in a clothing penalty

- **Khaki work pants, as shown**
- **Leather work boots**
- **Safety glasses** **MUST BE WORN AT ALL TIMES**
- **SkillsUSA Massachusetts T-Shirt, provided**
- **Hard Hat, not required**
- **NO cell phones allowed**

**Safety:** avoid a safety violation or being removed from the contest

- **NO loose/long hair (must be secured)**
- **NO loose clothing**
- **NO jewelry**
- **No sneakers**

### Tool Requirements:

One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty

**Contestant tool check off form must be completed, signed and turned in with resumé**

<table>
<thead>
<tr>
<th>Tool</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tape measure or rule</td>
<td>Utility knife with blades</td>
</tr>
<tr>
<td>Dovetail saw</td>
<td>Back saw</td>
</tr>
<tr>
<td>Set of dividers or compass</td>
<td>Coping saw with extra blade</td>
</tr>
<tr>
<td>Plastic mallet</td>
<td>Sliding T bevel</td>
</tr>
<tr>
<td>2 - pencils, sharpened</td>
<td>3/16, 1/4 slotted screwdrivers</td>
</tr>
<tr>
<td>Drill index 1/16 to 3/8 x 1/16</td>
<td>1/4” collet router</td>
</tr>
<tr>
<td>1 pt. Wood glue</td>
<td>1 qt. Nontoxic contact cement</td>
</tr>
<tr>
<td>Nail Set</td>
<td>6” machinist scale</td>
</tr>
<tr>
<td>Laminate tools flat mill file, plastic laminate roller, electric trimmer, flush cutter, bevel cutter</td>
<td>Edge banding trimmer</td>
</tr>
<tr>
<td>Set of wood chisels (1/4”, 3/8”, 1/2”, 3/4”, 1”)</td>
<td><strong>(Chisels must be ground and sharpened)</strong></td>
</tr>
</tbody>
</table>

### National Skills:

- Contestants are required to build a small cabinet from materials and drawings supplied. They are expected to read the drawings, lay out and cut the parts, using a table saw, laminate trimmer, hand drill, hinge boring machine and various hand tools. The parts are to be accurately assembled, sanded and adjusted to tolerances as specified by the judges.

### State Skills:

The event will include 10-12 of the following:

1. **Mortise in a butt hinge**
2. **Layout and band saw a valance**
3. **Blind dado**
4. **Spline joint**
5. **Spline flat miter joint**
6. **Haunched mortise and tenon**
7. **Drawer Corner joint (DBL DADO)**
8. **Pocket hole**
9. **Pocket hole dado**
10. **Cope joint**
11. **Flat miter and doweled**
12. **Turn a round tapered leg**
13. **Drawer Front dovetail**
14. **Machine dovetail**
15. **Plastic laminating**
16. **Square tapered leg jig and leg (4 sides)**
17. **Layout and cut a cabriole leg**
18. **Layout rod**
19. **Mortise and tenon table leg and rail**
20. **Bridle joint**
21. **Set up a knife and collar on the shaper**
22. **Turn a leg with beads, coves, and half rounds**
23. **Through dovetail**
24. **Biscuit joinery**
25. **Cabinet carcass assembly**
26. **Assemble & install doors**
27. **Layout and install door & draw hardware**
28. **Assemble & install drawers**
29. **Mechanical draw slides**
**CABINETMAKING MEMORANDUM**

**TO:**  Cabinetmaking School Advisor  
**FROM:**  Cabinetmaking Event Manager  
**DATE:**  February 15, 2019  
**RE:**  Safety and Proficiency

Please complete this information for each contestant who intends to participate in the Cabinetmaking Contest. Each contestant must present to the Event Manager a completed version of this form on the morning of competition before the students will be allowed to compete.

This letter is to confirm that ____________________________________________ is enrolled in the Cabinetmaking program at ____________________________________________ School and has satisfactorily passed all general and specific shop safety rules and has demonstrated proficiency on all parts, controls, safety tests on each of the following pieces of machinery (check all as appropriate):

- [O] Circular Saw  
- [O] Spindle Sander  
- [O] Band Saw  
- [O] Router  
- [O] Tennoner  
- [O] Edge Sander  
- [O] Other - Please List: _____________________________________________  
- [O] Disc Sander  
- [O] Surface Planer  
- [O] Radial Arm Saw  
- [O] Chisel Mortiser  
- [O] Power Drill  
- [O] Drill Press  
- [O] Jointer  
- [O] Lathe  
- [O] Shaper  
- [O] Portable Hand Saws  
- [O] Hand Held Laminate Trimmer  
- [O] Stoke Sander

____________________________________________________  
Signed (Student)

____________________________________________________  
Signed (Advisor)

____________________________________________________  
Signed (Administrator)

This document, completed and containing all required signatures MUST be presented to the Event Manager on Friday morning BEFORE being allowed to use machinery in the contest area.
Carpentry Contest

Requirements and Scope of Contest

Clothing Requirements: failure to do so will result in a clothing penalty

- Khaki work pants, as shown
- Leather work boots
- Safety glasses MUST BE WORN AT ALL TIMES
- SkillsUSA Massachusetts T-Shirt, provided
- Hard hat
- Work gloves
- NO loose/long hair (must be secured)
- NO loose clothing
- NO jewelry
- NO sneakers

Safety: avoid a safety violation or being removed from the contest

- NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty

- 1 - 3’ OSHA approved step ladder
- 1 - Circular Saw
- 1 - Block plane
- 1 - Flat Bar
- 1 - Utility knife with extra blades
- 1 - Set of wood chisels (1/4” - 1”)
- 1 - 24” or 30” level
- 1 - Combination wood rasp and file
- 1 - Cordless Drill (bits will be provided)

- 1 - Claw hammer, (16-22 oz. smooth face)
- 1 - Tool box
- 1 - Tool Belt
- 1 - Phillips and flathead screwdriver
- 1 - Framing square (stair stops optional)
- Nail sets (1/32, 2/32 and 3/32)
- 1 - Ruler or tape measure
- 1 - Keyhole saw

- 2 - Sharpened pencils
- 1 - Hand Saw
- 1 - Cats paw/Nail claw
- 1 - Combination square or speed square
- 1 - Chalk line
- 1 - Pair Tin snips
- 1 - Pair slip joint pliers
- 1 - 25’ Extension cord (UL approved, grounded)

Purpose:
To evaluate each contestant’s preparation for employment and to recognize outstanding students for excellence and professionalism in the field of residential and commercial carpentry.

Eligibility:
Open to active SkillsUSA members enrolled in programs with carpentry as the occupational objective.

State Skills:
The contestants are required to complete a project specifically designed to test overall carpentry skills, which include framing, exterior trim, and stair building. They are judged on the basis of accuracy, ability to read and interpret blueprints, workmanship, and the proper use of tools and equipment.
AIR CONDITIONING & REFRIGERATION - HVACR

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
- Khaki work pants, as shown
- Work shoes
- SkillsUSA Massachusetts T-Shirt, provided
- Hard hat
- Safety glasses MUST BE WORN AT ALL TIMES
- NO cell phones allowed
- NO loose/long hair (must be secured)
- NO loose clothing
- NO jewelry
- NO sneakers

SkillsUSA Massachusetts T-Shirt, provided

Safety: avoid a safety violation or being removed from the contest

Tool Requirements:
- One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- Pen/Pencil
- Reg. & Phillips screwdriver
- Flaring block and yoke
- Flint spark lighter
- Tubing Cutter
- Refrigeration service valve ratchet
- Simpson VOM MODEL 260 or similar
- 10” adjustable wrench
- Refrigerant manifold gauge set
- Wire Stripper
- Wire Cutter
- Hammer (Ball Peen)
- Tubing bender ¼”-3/8”
- Reamer
- B Type acetylene set-up with hose, handle and tips suitable for soft soldering and brazing
- Gloves
- Temperature and Pressure Chart
- Lockout locks or tags
- Refrigeration service valve ratchet
- Tape/ruler
- 1/4, 3/8, 1/2, 5/8 swaging tools
- Pliers (Water Pump)
- Please mark all torch kits so that they can be identified

ABSOLUTELY NO B TANKS OR TANKS OF ANY KIND SHOULD BE BROUGHT. WE WILL PROVIDE THEM.

*** IMPORTANT NOTE ***

IF A SCHOOL IS SENDING MORE THAN ONE STUDENT AND THERE ARE PROBLEMS SECURING TOOLS FOR EACH PARTICIPANT (SUCH AS ACETYLENE TANK SET-UPS), THE JUDGES WILL TRY TO SCHEDULE STUDENTS FROM THAT SCHOOL SO THAT THEY ARE NOT DOING THE SAME TASK AT THE SAME TIME. HOWEVER, THE JUDGES WILL TAKE NO RESPONSIBILITY FOR INCONVENIENCE, DELAYS, OR OTHER PROBLEMS THAT THIS COULD LEAD TO.

National Skills:
Contestants are tested on their ability to perform such jobs as troubleshooting, recommending service and repair, and brazing. They are judged on the basis of their use of tools and test equipment, speed, accuracy, and safety.

State Skills:
1. Soft soldering, brazing, flaring, and copper tubing procedures.
2. Diagnosing electrical problems in heating and cooling units.
3. Knowledge of refrigeration systems, associated components and operating characteristics.
4. Observance of refrigeration safety.
PLUMBING CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
- Khaki work pants, as shown
- Leather work boots
- Work gloves
- SkillsUSA Massachusetts T-Shirt, provided
- Hard Hat
- Safety glasses
- Leather work boots
- Work gloves
- NO cell phones allowed
- Hard Hat
- NO jewelry
- NO sneakers

Skills: 
- avoid a safety violation or being removed from the contest
- NO loose/long hair (must be secured)
- NO loose clothing
- NO jewelry
- NO sneakers

Safety:
- avoid a safety violation or being removed from the contest
- NO loose/long hair (must be secured)
- NO loose clothing
- NO jewelry
- NO sneakers

The Following Items Will Be Supplied by the Technical Committee:
- 18 Torches
- Clip Board
- Ratchet type cast iron cutters
- Flux
- Solder
- PVC Glue
- PVC Primer
- Sand cloth
- Scissors type cast iron cutter
- Propane

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Toolbox with the tools needed to assemble PVC, copper tubing and a no hub project. Be sure to include the two different sizes of Torque Wrenches or nut driver for Huskey and Annaco 4000 clamps.
- Reamer
- Ruler/tape measure
- Steel wool
- Pencils
- Huskey 3/8” Torque wrench
- Chaulk
- 5/16” Torque wrench
- Ridgid #15
- Soap stone
- PVC saw
- Hack saw with spare blades
- Water pump pliers
- Claw Hammer
- 4 in 1 Screwdriver
- 10” Adjustable wrench
- Straight tin snips
- 9” Torpedo level
- 10” and 12” pipe wrenches
- Cordless drill
- Utility knife
- Scratcher
- Clean rags

Only the tools listed here will be allowed. Tools will be laid out prior to beginning the competition.
More tools or less (missing) tools, minus 2 points per tool.

State Skills:
Using supplied materials, contestants are required to “rough in” water, drain and vent piping. Installations are judged on accuracy to specified measurements. The completed projects are pressure tested on the water pipes. Professional plumbers judge the contestants on the basis of accuracy, workmanship, proper selection and use of tools and supplies, and proper safety practices.
SERIES DIRECTOR:
KEN PACHECO

CONTACT INFORMATION:
CHIEF OPERATIONS OFFICER
FACILITIES & OPERATIONS
FALL RIVER PUBLIC SCHOOLS
417 ROCK STREET
FALL RIVER, MA 02720
kenpacheco@fallriverschools.org

EVENT:
TEAMWORKS
Briefing: Best Western - Princess Ballroom Wednesday afternoon
Competition: Tent at Trade Center all day Thursday and Friday
Event Manager: Chris Gallagher

Be sure to plan on arriving Wednesday
You will need to reserve your team’s hotel room
and the advisor’s hotel room for the additional night
Please be sure to identify which advisor
will be arriving early with the team
TEAMWORKS CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: required for every contestant, failure to do so will result in a clothing penalty
- Khaki work pants, as shown
- Leather work boots
- SkillsUSA Massachusetts T-Shirt, provided
- Long sleeve work shirt
- Work jacket or sweatshirt for weather
- NO cell phones allowed
- Safety glasses
- Hard hat
- NO loose/long hair (must be secured)
- NO loose clothing
- NO jewelry
- NO sneakers

TEAMWORKS WILL TAKE PLACE OUTSIDE, IN A TENT, AT THE BEST WESTERN ROYAL PLAZA TRADE CENTER.
BE PREPARED FOR ALL WEATHER CONDITIONS.

TEAMWORKS MASONRY REQUIREMENTS:
Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- Standard masonry tool box
- Extension Cord
- Masonry saw (skill saw with masonry blade)
- Wheelbarrow
- Mortar pan

TEAMWORKS CARPENTRY REQUIREMENTS:
Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- Standard carpentry toolbox with hand tools
- Skill saw
- Sabre saw
- Saw horses
- Extension cords
- Drywall screw gun
- Miter box

TEAMWORKS ELECTRICAL REQUIREMENTS:
Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- Standard electrical toolbox
- Screw gun
- Extension cord
- Right angle drill with bits
- Metal Stud Punch (optional)
- Right angle drill with required bits
- 1 Qt. Cement
- 1 Can of Pipe Dope - sealant
- 1 Roll of sand cloth

TEAMWORKS PLUMBING REQUIREMENTS:
Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- Standard plumbing tool box
- Screw gun
- 2 Rolls Teflon Tape
- 1 lead free solder
- 1 ½” Fitting brushes
- 1 ½” ABS or PVC x female adapter
- 1 Qt. Cleaner
- 1 Flux with brushes
- 1 Plumbers putty
- 1 ⅛” IPS ball valve
- 0-30 psi gauge
- 0-300 psi gauge
- 1 ½” male x Schrader valve
- 2” test plugs
- ½” male x female adapter
- ½” IPS ball valve
- 0-30 psi gauge
- 1 ½” test plugs

PROPANE TANK WILL NOT BE SUPPLIED
TEAMS NEED TO BRING THEIR OWN! IT WILL NOT BE ALLOWED IN THE HOTELS SO IT MUST BE STORED AT THE JOB SITE!

In addition to the tools and equipment listed, the plumbing contestant in TeamWorks may also bring appropriate test equipment as listed below: Test Equipment to be brought by contestant:

(3) – 3” test plugs
(1) – 1 ½” ABS or PVC x female adapter
(1) – 4” test plugs
(1) – 1 ½” x black tee
(1) – ½” IPS ball valve
(1) – ½” lead free solder
(1) – ½” x ¾” black bushing
(1) – ¾” male x Schrader valve
(1) – 0-30 psi gauge
(1) – 0-300 psi gauge
(2) – 2” test plugs
(3) – 1 ½” test plugs

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THE TEAM:
Teamwork is vital for every successful project. The competition will challenge each team to plan and execute a complex structure to completion. Each school will supply an adequate labor force to complete the assignment.

THE CHALLENGE:
Your task will be to build a structure per the plans and material supplied. You are to work as a team but each trade will be responsible for their own work. [For example: A plumber may hold a board for a carpenter but the carpenter must cut it and install it.]

THE PLAN:
“PLAN your work - then WORK your plan.”
ON WEDNESDAY EVENING - APRIL 24, 2019 AT 6:30PM DINNER WILL BE PROVIDED COMPLIMENTS OF AMERESCO FOR ALL CONTESTANTS AND ADVISORS.
ON THURSDAY MORNING - APRIL 25, 2019 AT 6:30AM ALL TEAMS SHOULD ARRIVE AT THE BEST WESTERN ROYAL PLAZA HOTEL FOR THE TEAMWORKS BREAKFAST. After breakfast, all teams will report to the tent where all the trades will meet and plan how they will identify the sequence of the project.
The competition will start at 8:00pm on Wednesday, April 24th with the interview and resumé portion of the competition.
The hands-on portion of the competition will begin at 8:30am on Thursday, April 25th.

CAUTION:
This is an aggressive undertaking so time management is very important. Schedule your trades so they will be able to complete their tasks without interfering with others. Early construction of the initial trades should start during the planning time.

ASSESSMENT:
A team of judges will monitor and assess the projects. They will evaluate the quality of the work, the cohesiveness of the team and the completion of the project. NOTEBOOKS OR REFERENCE MATERIAL WILL NOT BE ALLOWED IN THE WORK AREAS. ONLY CODE BOOKS ARE AUTHORIZED.

PROPER TEAMWORKS REGISTRATION, FOR WEDNESDAY EVENING:
Teams are required to be housed at their conference hotel on Wednesday evening.
We have provided the proper form on the next page, which can be mailed in with your registration.
We have also provided a digital form to each school’s advisor, which can be filled in digitally and emailed before the registration due date.
Please be sure the Chapter Advisor has made this notification to the state office, by April 1, 2019 for TeamWorks
**TEAMWORKS REGISTRATION DETAILS**

This document should be completed and can be submitted with state registration.

Please be sure the Chapter Advisor has made this notification to the state office, by April 1, 2019 for TeamWorks.

**Proper TeamWorks Registration, for Wednesday Evening:**
Teams are required to be housed at their conference hotel on Wednesday evening.

<table>
<thead>
<tr>
<th>School:</th>
<th></th>
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</table>

The following members are arriving Wednesday evening:

<table>
<thead>
<tr>
<th>Carpenter:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Electrician:</td>
<td></td>
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<tr>
<td>Mason:</td>
<td></td>
</tr>
<tr>
<td>Plumber:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Advisor 1:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Advisor 2:</td>
<td></td>
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</tbody>
</table>

A second team is also arriving Wednesday evening:

<table>
<thead>
<tr>
<th>Carpenter:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrician:</td>
<td></td>
</tr>
<tr>
<td>Mason:</td>
<td></td>
</tr>
<tr>
<td>Plumber:</td>
<td></td>
</tr>
</tbody>
</table>

Please email completed form to kward@maskillsusa.org
TEAMWORKS
JOB INTERVIEW

PURPOSE: To evaluate the contestant’s understanding of project interview procedures that they may face in applying for positions/project in the occupational areas for which they are training.

GENERAL REGULATIONS: Contestant’s entering this contest must follow all rules listed below as well as the “General Regulations” of the Massachusetts Skills Championships. The “General Regulations” can be found in a separate file under that name. You will be held accountable for knowing and following all rules and guidelines of the Massachusetts Skills Championships.

CLOTHING REQUIREMENT FOR THE INTERVIEW: Business Casual

OBSERVER RULE: No observers will be permitted to view the interviews in progress.

EQUIPMENT AND MATERIALS:
1) Supplied by Interview Committee
   a. Blank Building Permit

2) Supplied by the contestant
   a. OSHA Job Safety Manual
   b. An ink pen for completing the Building Permit
   c. Three copies each of a one-page typewritten personal resume, to be presented during the interview

SCOPE OF CONTEST
1) Contestants should prepare for the interview contest by developing the following skills:
   a. Demonstrate confident handshake, proper greeting and personal introduction
   b. Know the aspects of making positive first impressions
   c. Demonstrate good grooming in dress and personal hygiene
   d. Demonstrate confidence and positive personal image
   e. Develop listening skills and show sincere interest
   f. Pronounce words in a clear and understandable manner
   g. Know their personal qualities and how to “sell themselves”
   h. Know the sources of information about a prospective employer
   i. Effectively vary voice in pitch, tone, tempo and volume

2) Prepare a personal resume
   a. Answer questions and carry a conversation pertaining to resume and trade

3) Prepare an OSHA Safety Plan
   a. Answer questions and carry a conversation pertaining to this plan

4) The interview will be divided into five phases:
   a. Introduction
   b. Work Presentation
   c. Resumes
   d. Questions
   e. Permit/Safety
5) The contestant must submit three (3) copies of the personal resume (limited to one page typewritten or word-processed).

The following information must be contained in the resume:

a. Name, any (fictitious) address, phone number and email may be added
b. Career objective
c. Education and training
d. Work experience beginning with present employment listing specific responsibilities
e. Memberships, major accomplishments, awards earned, etc.

6) When called from the holding area, the contestant will approach directly into the Interview Room as though applying for a job in the occupational area for which she or he is training.

7) Upon evaluation of the resume, the judges will present the rating sheet and the three copies of the personal resume back to team.

8) All contestants will be asked identical questions. Judges are encouraged to use their own interview techniques. Such questions might include the following but will be determined by the judges:

a. Questions directly out of from the Massachusetts Building Code
b. Occupational Safety Questions
c. Questions from the National Electrical Code
d. Personal Short and Long range goals

9) Contestants will be handed a building permit application at the conclusion of the interview.

10) Contestants will be required to fill out this permit once they return to their work zone. The building permit application MUST be completed with an ink pen prior to the commencement of any craftsmanship work. Once approved, a building permit will be issued to that team. The team is required to post this permit.

11) INTERVIEW TIME: Contestants will be required to manage their interview time per the posted schedule. Please locate the posted interview board for your teams' time. Remember points will be subtracted for tardiness.

12) INTERVIEW ROOM ARRANGEMENT: The Interview Room will be furnished with table(s) and chairs for the contestants and two or three judges from the interviewing committee.

13) INTERVIEW PROCESS: The Team Leader shall lead the team into the Interview Room and direct each member to his or her respective chair.

a. With all team members standing in front of chair, the Team Leader shall commence with the team introduction
b. While standing and looking directly at the Judges, the Team Leader shall state the following (Example):

   I. Proper Salutation (Hello and Good Morning), my name is ___ (first name only) and I am the team leader and I’m also the Electrician (specified trade) for Team# ___ I will now ask the team members to introduce themselves and their trade.

   II. TEAM MEMBERS: Proper Salutation (Hello and Good Morning), my name is (first name only) and I’m the Plumber for Team# ____.

   III. All members shall introduce themselves to the Judges as identified above.

   IV. Upon completion of each individual introduction, each team member shall hand a copy of his or her resume to each Judge.
## Job Interview Rating Sheet

### Introduction/Interview Time
- **Points Earned:** 20
- **Remarks:**

### Proper Clothing
- **Points Earned:** 15
- **Remarks:**

### Team Leadership
- **Points Earned:** 15
- **Remarks:**

**INTRODUCTION TOTAL 50**

### Members Role(s)
- **Points Earned:** 20
- **Remarks:**

### Proposed Team Work
- **Points Earned:** 15
- **Remarks:**

### Trade Knowledge
- **Points Earned:** 15
- **Remarks:**

**WORK PRESENTATION TOTAL 50**

### Completeness of Detail
- **Points Earned:** 20
- **Remarks:**

### Neatness
- **Points Earned:** 15
- **Remarks:**

### Volume
- **Points Earned:** 15
- **Remarks:**

**RESUMÉ TOTAL 50**

### Answer Accuracy
- **Points Earned:** 20
- **Remarks:**

### Presentation (eye contact)
- **Points Earned:** 15
- **Remarks:**

### Knowledge
- **Points Earned:** 15
- **Remarks:**

**QUESTIONS TOTAL 50**

### Completed Properly/Posted
- **Points Earned:** 20
- **Remarks:**

### Safety Manual
- **Points Earned:** 15
- **Remarks:**

### PPE (head, ears, eyes, feet)
- **Points Earned:** 15
- **Remarks:**

**PERMIT/SAFETY TOTAL 50**

**OVERALL TOTAL 250**
TEAMWORKS
BUILDING PERMIT APPLICATION
(for Training Purposes Only)

I. APPLICANT TEAM Number ______________________________

II. TYPE AND USE OF BUILDING - Please indicate all that apply
   PURPOSE FOR PERMIT New Building Addition Alteration Repair
   USAGE CATEGORY Residential Business Automotive Industrial
   ESTIMATED COST OF WORK PROPOSED UNDER THE PERMIT $____________________

Describe briefly the nature of the work proposed to be completed under this permit application:

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

III. BUILDING CHARACTERISTICS - Please indicate all that apply
   Frame: Masonry Wood Structural Steel Other
   Type of Heating Fuel: ____________________ Construction Size: ____________________ Area

   Are any of the following included in the work? Please indicate by circling all that apply
   Electrical Plumbing Private Water Oil Storage Fire Suppression Air Conditioning
   Public Water Heating Septic System Gas Fitting Fire Detection Hazard Abatement

IV: CONTRACTOR
   Team Number Construction Supervisors License# ____________________
   Home improvement Contractor Registration # ____________________

VII: ARCHITECT, ENGINEER OR DESIGNER
   JoAnn Bentley Architect 209 Bedford Street Suite 404, Fall River, MA 02720
   Phone# Facsimile # E mail 508-674-7600 508-674-7603 jbentleyarchitect@verizon.net

VIII: READ CAREFULLY BEFORE SIGNING:
   The undersigned applicant certifies that he/she is the legal owner of the property OR has been authorized to act as an agent of the
   owner with their full knowledge and consent. The applicant certifies that they have read, examined and truthfully completed this
   application in its entirety, that the proposed work and submitted plans are subject to the provisions of the Massachusetts Building
   Code (780 CMR) and other applicable laws and ordinances of the city and state to which the work is being performed and that any
   permit issued as a result of this application will be subject to the statements contained in the application and all codes, laws and
   ordinances. This application was designed for SkillsUSA project training purposes.

   Team Leader (print) ____________________ Signature of Team Leader ____________________

BUILDING INSPECTION SIGN-OFF SHEET Project should not proceed without the appropriate sign-offs.
   Flooring Systems ____________________ Deck/Stairs-Walls ____________________
   Plumbing Rough ____________________ Electrical Rough ____________________

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COMMERCIAL DESIGN A

SERIES DIRECTOR:
MONICA CLABAUGH

CONTACT INFORMATION:
82 PINE STREET
DOUGLASS, MA 01516
(774) 437-2184
mon.clabog@gmail.com

EVENTS:

ADVERTISING DESIGN
Briefing: Duchess Room
Competition: Blackstone - Graphics Computer Lab (Related)—Room 051B
Event Managers: Don Goldman and Justin Searles

AUDIO/RADIO PRODUCTION (Full Demo)
Briefing: Duchess Room
Competition: Blackstone - Room 522A & 523A
Event Manager: Anthony Nardozzi

DIGITAL CINEMA (TV) PRODUCTION
Briefing: Duchess Room
Competition: Blackstone - Rooms 526, 525
Event Manager: Mary Novick

PHOTOGRAPHY
Briefing: Duchess Room
Competition: Blackstone - Room 521A
Event Manager: Dennis Daubney
ADVERTISING
DESIGN CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire. NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Pencils and erasers
Colored pencils
Markers - colored
Scales and rulers - picas and inches
X-acto knife and blades
Paper Adhesive(s) - one coat rubber cement, tape, glue stick, etc.
Note: Additional materials are acceptable but not necessary. They may be brought to the contest at the discretion of the artist.
All other materials will be supplied by the Committee.

State Skills:
Contestants are tested on their technical skills as well as their creative aptitude. To test their technical ability, the competitors complete a problem that tests many of the technical aspects they would encounter in the completion of a mechanical/color separation. This is done using traditional manual skills. The competitors also complete a mechanical layout problem using a computer. The computer platform is Apple iMacs running OS X El Capitan 10.11.6. The creative portion of the contest involves the working out of an assignment through the development of a rough sketch, final sketches, drawing and illustration, and the final layout and development of a product. Software: Adobe CC – which includes InDesign, Photoshop, and Illustrator.

Competitors will be tested for their artistic skills with emphasis on design, color sense, typography usage, and production skills. Particular focus will also be on accuracy and neatness, not necessarily speed. The Advertising Design Competition will consist of two areas: Mechanical and Layout Design. Judging will be based on any or all of the following:
1. Mechanical - completeness, accuracy and neatness
2. Design - Creativity, completeness, imagination and presentation
3. Apply basic drawing techniques to advertising design
4. Understand and apply color as used in advertising design
5. Prepare layouts
6. Design, specify and apply typography to design
7. Demonstrate two and three-dimensional concepts for advertising design
8. Prepare art and copy for reproduction
9. Specify printer’s instructions for multi-color work, generate art, design and copy using electronic equipment and appropriate software
10. Mounting art on supplied board in a clean, neat, and visually appealing manner

IMPORTANT NOTE:
Competitors should be prepared to leave on the first bus available for Blackstone Valley RVTHS. Advertising Design competitors should enter the area for the ribbon-cutting ceremony. Competitors in this area will be called and allowed to leave early to begin their contests.
REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire.  NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty

Supplied by the technical committee:
- Theme and objective for production
- Facilities and power to edit final product
- Audio equipment, cables and connectors outside of required “contestant supplied” equipment

Supplied by the contestants:
- Portable digital audio recorder with removable recording media
- Microphone with audio cable
- Method of importing digital audio from field recorder to editing system
- Audio editing software/system (use of laptops is strongly encouraged)
- Writing implement (pen, pencil, marker, etc.)
- USB flash drive
- Scratch paper for notes
- Headphones (not ear buds)
- Surge-protected power strip
- Production music (Production music is not commercial music purchased in stores. It is music created for use in audio and video productions. Some production music companies are: Music Bakery, Production Garden, TM Studios and Omniumusic. Production music may also be created using programs such as GarageBand, Soundtrack or ACID)

Skill Performance:
The contest includes an assignment to produce a final project on site as determined by the technical committee.

1. The contestants will demonstrate their ability to perform the following jobs or skills:
   - Demonstrate knowledge of audio production technology, including proficiency in digital audio recording, editing and mixing.
   - Demonstrate knowledge of terminology for mic level, line level, dynamic range, microphone preamp, compressor/limiter, XLR cable, XLR connector, EQ, time-based processing, send, return, input, output, balanced, and unbalanced.
   - Demonstrate working knowledge of microphones, microphone preamps, compressor/limiters, EQ, send, return, level control, and digital audio editing on a DAW (Digital Audio Workstation).
   - Demonstrate proficiency in planning a radio production, including the proper commercial script form.
   - Demonstrate knowledge of terminology for script, script form, copy, target demographic, live tag, intro, outro, format, 60-second spot, 30-second spot, PSA, broadcast, network, run time, voice over, FCC, and mic technique.
   - Demonstrate practical knowledge of scriptwriting, pre-production story development, radio advertising development, proper microphone technique.
2. Audio and information will be gathered on location as needed to convey the assigned theme or objective. Contestants are to work on site to capture and edit the radio production.

3. Students are to fully produce (plan, write, voice, record, edit, render, etc.) a two-minute radio production such as a PSA, NPR-style soundscape, sound-rich/NPR-style news story, sound and interview only news story, etc. A 15-second ad spot will be produced and inserted into the production. The complete production requires students to demonstrate their ability to plan a project that meets a specific prompt and run time; gather, edit and mix a variety of audio sources; and render the completed project to a specified audio file.

4. Designated time periods will be provided for script research and development, rehearsal of the script, generation of written copy, field recording, booth voiceover recording, and editing the final project.

5. Recording, but not editing, may begin after Thursday evening’s Briefing Meeting, but no sooner. Recording may continue until noon Friday, on the day of the competition. Editing begins on Friday, the day of competition – after the ribbon cutting ceremony.

6. All editing will end promptly at 1:00 on Friday, the day of the competition. Students are required to stay at the competition site for their interview. Interview times will be posted and students should be ready and prepared for their scheduled times.

7. Emphasis will be placed on:
   a. Professional production of the audio/radio production by industry standards
   b. Quality of the audio
   c. Conveyance of the subject, theme and information to the listener
   d. The completed radio production must meet the assigned run time and convey an adequate representation of the subject or theme.

8. All teams will submit their projects including final production and script on a USB flash drive with a file name and format chosen by the technical committee.

9. Teams that do not turn in their produced audio/radio production and script within the time limit will have 20 points deducted from their final score, plus 1 point for each additional minute past the deadline.

10. Teams that are late to their assigned editing station will have that time deducted from their allotted time.

11. The finished production must meet the run time determined by the contest committee (plus or minus one second). Points will be deducted if the spot is outside the one-second tolerance.

12. If a team experiences a problem with its equipment, it is the team’s responsibility to fix the problem. No extra time will be given for equipment problems. Teams may choose to bring in a second editing system in case of equipment problems, but no extra space will be given for the second system. The contest committee strongly encourages the use of laptops.

13. Teams may edit by using whatever software or method they choose, but they must supply their own equipment.

IMPORTANT NOTE:
Competitors should be prepared to leave on the first bus available for Blackstone Valley RVTHS. Audio/Radio Production competitors should enter the area for the ribbon-cutting ceremony. Competitors in this area will be called and allowed to leave early to begin their contests. This will allow the competitors the opportunity to return to the ribbon cutting to capture vital audio of the ribbon-cutting event.
DIGITAL CINEMA (TV) 
PRODUCTION

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire. NO cell phones allowed

Supplied by the State Technical Committee:
• Classroom space with one outlet accessible for each team and one USB thumb drive per team

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
• For each piece of music used, a written copyright permission letter from the copyright holder must be submitted with entry. A blanket letter from a music library may be used. Any entry containing music not properly licensed will result in point penalties. Contestants may also create their own music during post-production. Sound effects and sound effects libraries may be used.
• A camera and computer system capable of recording video and outputting video
  Aspect Ratios: 4:3 (4x3) or 16:9 (16x9)  Frame Rates: 24fps, 29.97fps, or 30fps. Scanning: Progressive or Interlaced
  Resolution: 480 (SD) formats, and 720,1080 (HD) formats are acceptable up to 30fps.
• Videos will be exported as files and transferred to USB thumb drive media for submission. No stock photography, no stock video, no stock animation or graphics packages are allowed.
• Audio and video must be in the same file; we cannot accept submissions with separate audio and video files.
• One nonlinear editing system (multiple computers are not allowed). Any software editing/compositing/mixing system may be used, but no third-party templates may be used.
• Microphone (wired and/or wireless)
• Two or more batteries and power supply/charger for camera
• Certify that the equipment has been thoroughly inspected and is in safe working condition
• 20' AC extension cord with multiple outlet power strip
• Camera support system (tripod, monopod, shoulder mount, steadicam, etc. are all allowed)
• Headphone splitters, if desired, must be supplied by contestants
• Submissions must be one of the following: Quicktime (.mov) file, it must be compressed using either the H.264 or MPEG-2 codecs H.264, MPEG-2. Contestants may shoot (record) in any format/frame rate/resolution desired, but the final project to be turned in must follow the specs outlined above.

State Skills:
The contest will include a video assignment to be created on site by a team of two student members from the same school and same division.
The assignment will consist of the following:
1. A video that conveys the following theme: SkillsUSA - Champions at Work, Career-Ready Starts Here.
  What can you specifically point to within your SkillsUSA chapter that demonstrates Career-Ready Starts Here?
  What can you specifically point to within your career and technical education program that demonstrates Career-Ready Starts Here?
  Using Career-Ready Starts Here, what would you say to students to convince them to join SkillsUSA?
  Using Career-Ready Starts Here, what would you say to campus administrators to convince them to support SkillsUSA?
  How is the SkillsUSA Framework of developing personal, workplace and technical skills central to the concept of Career-Ready Starts Here?
  Which SkillsUSA programs ensure that members are developing the personal skills needed to be career-ready?
  Which SkillsUSA programs ensure that members are developing the workplace skills needed to be career-ready?
  Which SkillsUSA programs ensure that members are developing the technical skills needed to be career-ready?
  What areas of the SkillsUSA program of work have assisted you in becoming career-ready?
  What are the specific skills and abilities that a member possesses when career-ready?
  How will you demonstrate to an employer that you are career-ready?
  How does your career and technical education program emulate the workforce?
  What are your next steps in ensuring you are career-ready?
TV PRODUCTION Continued

2. Contestants are to work on site to capture and edit a 60-second video production (penalties will be assessed for video projects under/over 60 seconds).

3. The completed video production must convey an adequate representation of the subject or theme.

4. Taping, but not editing, may begin upon arrival to Skills events on Thursday evening, but no sooner. Taping may continue until noon Friday, on the day of the competition. Editing begins on Friday, the day of competition – after the ribbon cutting ceremony.

5. All editing will end promptly at 1:00 on Friday, the day of the competition. Students are required to stay at the competition site for their interview. Interview times will be posted and students should be ready and prepared for their scheduled times.

6. Emphasis will be placed on professional production of the video by industry standards, quality of audio and video, and conveyance of theme to the viewer.

7. All teams will submit projects on a SkillsUSA provided USB thumb drive or as a computer file using a CODEC specified during the contest.

8. Safety Requirements must be followed
   Both the instructor and the contestant certify by agreeing to enter this contest that the contestant has received instructions and has satisfactorily passed an examination on the safe use of tripods and other mounts (if used). They also certify that the equipment has been thoroughly inspected and is in safe working condition. Contestants will be removed from competition if proper training has not been provided and/or they are using the equipment in an unsafe manner.

**IMPORTANT NOTE:**
Competitors should be prepared to leave on the first bus available for Blackstone Valley RVTHS. TV Production competitors should enter the area for the ribbon-cutting ceremony. Competitors in this area will be called and allowed to leave early to begin their contests. This will allow the competitors the opportunity to return to the ribbon cutting to capture vital footage of the ribbon-cutting event.

**SCORE SHEET**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Point Value</th>
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</thead>
<tbody>
<tr>
<td><strong>1. Script</strong></td>
<td></td>
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<tr>
<td>1a. Script organization</td>
<td>20</td>
</tr>
<tr>
<td>1b. Script consistent tone</td>
<td>20</td>
</tr>
<tr>
<td>1c. Script answers major questions</td>
<td>20</td>
</tr>
<tr>
<td>1d. Script appropriate for audience</td>
<td>20</td>
</tr>
<tr>
<td>1e. Script appropriate ending</td>
<td>20</td>
</tr>
<tr>
<td><strong>2. Camera Technique / Storyboarding</strong></td>
<td></td>
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<tr>
<td>2a. Camera’s basic shots</td>
<td>25</td>
</tr>
<tr>
<td>2b. Video variety of basic shots</td>
<td>25</td>
</tr>
<tr>
<td>2c. Non-basic shots</td>
<td>25</td>
</tr>
<tr>
<td>2d. Locations and props to “frame” shots</td>
<td>25</td>
</tr>
<tr>
<td>2e. Camera lens was focused</td>
<td>25</td>
</tr>
<tr>
<td>2f. Proper use of equipment</td>
<td>25</td>
</tr>
<tr>
<td><strong>3. Editing</strong></td>
<td></td>
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<tr>
<td>3a. Edits are clean</td>
<td>30</td>
</tr>
<tr>
<td>3b. Edit style and pacing is appropriate</td>
<td>30</td>
</tr>
<tr>
<td>3c. Timing of the edits is appropriate</td>
<td>30</td>
</tr>
<tr>
<td>3d. Edits avoid any continuity problems</td>
<td>30</td>
</tr>
<tr>
<td>3e. B-Roll footage effectively integrated</td>
<td>30</td>
</tr>
<tr>
<td>3f. Graphic elements are appropriate</td>
<td>30</td>
</tr>
<tr>
<td>3g. Text titles are readable and used</td>
<td>30</td>
</tr>
<tr>
<td><strong>4. Music / Sound</strong></td>
<td></td>
</tr>
<tr>
<td>4a. Audio levels are consistent</td>
<td>20</td>
</tr>
<tr>
<td>4b. Music selections are appropriate</td>
<td>15</td>
</tr>
<tr>
<td>4c. Music matches the edits</td>
<td>15</td>
</tr>
<tr>
<td>4d. Music is mixed with narration</td>
<td>15</td>
</tr>
<tr>
<td><strong>5. Special Effects</strong></td>
<td></td>
</tr>
<tr>
<td>5a. Special effects are appropriate</td>
<td>20</td>
</tr>
<tr>
<td>5b. Special effects add value</td>
<td>15</td>
</tr>
<tr>
<td>5c. Special effects are creative</td>
<td>15</td>
</tr>
<tr>
<td>5d. Special effects are integrated</td>
<td>15</td>
</tr>
<tr>
<td><strong>6. Team Presentation</strong></td>
<td></td>
</tr>
<tr>
<td>6a. Ability to work as a team</td>
<td>50</td>
</tr>
<tr>
<td>6b. Demonstrate problem solving</td>
<td>50</td>
</tr>
<tr>
<td>6c. Demonstrated professional attitude</td>
<td>50</td>
</tr>
<tr>
<td>6d. Spoke clearly, communicated well</td>
<td>50</td>
</tr>
<tr>
<td><strong>7. Overall Impressions and Interview</strong></td>
<td></td>
</tr>
<tr>
<td>7a. Effective integration of all elements</td>
<td>60</td>
</tr>
<tr>
<td>7b. Message was effectively communicated</td>
<td>50</td>
</tr>
<tr>
<td>7c. Video was creative, engaging</td>
<td>50</td>
</tr>
<tr>
<td>7d. Demonstrated it was their work</td>
<td>50</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1000</td>
</tr>
</tbody>
</table>
PHOTOGRAPHY
CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire. NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- Two prints for contest submission
- Digital SLR
- Memory Cards (1GB min)
- Extra camera batteries (charged)
- On-camera Flash & light meters (helpful but not mandatory)
- Camera’s USB cable or Memory card adapter for downloading images to computer.
- Computer loaded with school’s available version of Adobe Photoshop
- Jump Drive

State Skills:
Part 1: Print Competition
Students are required TO BRING WITH THEM and submit 2 prints that will be scored by a panel of professional judges.
Particular attention will be given to:
   a. The technical & artistic aspects of the image
   b. The overall impact
   c. Minimum 11x14 or 154 sq in. image area mounted to 16 x 20
   d. Black or white matting

NOTE: This is a Photography competition and not Graphic Design. Any image presented that goes far beyond the capabilities of traditional film photography in terms of manipulation will loose points. In short, if you can produce the image using film, negative retouching and print spotting, then the image is acceptable. Over use of multiple images, text, liquify tool, etc., is not encouraged.

IMPORTANT NOTE: Competitors should be prepared to leave on the first bus available for Blackstone Valley RVTHS. Photography competitors should enter the area for the ribbon-cutting ceremony. Competitors in this area will be called and allowed to leave early to begin their contests. This will allow the competitors the opportunity to return to the ribbon cutting to capture shots of the ribbon-cutting event.

Part 2: Field Assignment (Time to completion: 1 hour)
(Note: Students supply Digital SLR & accessories)
Students will go on assignment and capture images that relate to a “theme”.
Students must demonstrate their ability to stay within the parameters with respect to:
   a. Location
   b. Theme
   c. Time limit
   d. Technical and artistic proficiency
Part 3: Digital Editing Students will be required to complete a digital image manipulation project. Competitors are required to use their school or personal computer and version of Adobe Photoshop.

Part 4: Trouble Shooting Digital Images Students must correctly identify common problems in the processing/printing of digital images (i.e. blooming, jpeg artifacts, noise, color fringing, etc.)

OVERALL POINT STRUCTURE

<table>
<thead>
<tr>
<th>Part</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part 1: Print Competition</td>
<td>250</td>
</tr>
<tr>
<td>Part 2: Field Assignment</td>
<td>250</td>
</tr>
<tr>
<td>Part 3: Digital Editing</td>
<td>250</td>
</tr>
<tr>
<td>Part 4: Troubleshooting</td>
<td>250</td>
</tr>
<tr>
<td>TOTAL:</td>
<td>1000</td>
</tr>
</tbody>
</table>
SERIES DIRECTOR:
MARK LYONS

CONTACT INFORMATION:
LYONS SHARE ENTERPRISE
10 FORREST RD
WESTFORD, MA 01886
(978) 290-9015
mlyons@aetlabs.com

EVENTS:

3-D VISUALIZATION AND ANIMATION
Briefing: Corporate Room
Competition: Blackstone - 524A, 527A
Event Manager: Ed Hull

ADDITIVE MANUFACTURING
Briefing: Corporate Room
Competition: Blackstone - Room 165D
Event Manager: Dave Kempski

ARCHITECTURAL DRAFTING
Briefing: Corporate Room
Competition: Blackstone - Drafting Shop 160D
Event Manager: Samantha Squailia

PRECISION LASER IMAGING (Limited Demo)
Briefing: Corporate Room
Competition: Blackstone - Room 023B & 020B
Event Manager: Steve Beaudry

TECHNICAL DRAFTING
Briefing: Corporate Room
Competition: Blackstone - Drafting Shop 165D
Event Manager: Ed Gebo
3D VISUALIZATION AND ANIMATION

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire. NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
This year, our contest will not have a sponsor for workstations! All teams MUST have their own workstations!!

Each team is responsible for bringing their own computer equipment with software installed and running.
If the computer of choice is a workstation, this equipment must be set up on Thursday, before competition day.
The Competition Committee will provide a clean USB storage device, to be used only when submitting final work.

Software Requirements:
1. 3D Software: Here are examples of acceptable 3D Animation programs
   a. Maya, 3DS Max, LightWave, XSI, Houdini, Cinema 4D
   b. Contestants are permitted to use more than one of the above to complete tasks.
2. 2D Image Editing Software: Photoshop or Equivalent
3. Examples of acceptable image sequence compositing programs are Adobe After Effects, Adobe Premiere, or equivalent

Hardware Requirements:
1. Contestants may use any brand or type of personal computer from any source. Software must be pre-loaded and configured.
   The computer hardware must meet or exceed the minimum recommended system requirements from the manufacturer of the software of choice. We strongly recommend that the minimum requirements are exceeded.
2. User may use the following components with their systems: Wacom tablet, double monitors and Cintiq Pens.
3. Each contestant is allowed only one power outlet from the wall. Be prepared to bring a power strip.
4. Your computer must be able to write to a USB storage device.
5. Test the system carefully prior to competition. Make sure you can save to a USB storage device.
   Limited on-site technical assistance will be available on contest day.

Other Required Materials:
Pencils and erasers
Storyboard paper with NTSC CCIR 601 storyboard frames
Contestants may bring published reference books and software manuals.
Reference materials may not take up more than 1/2 cubic foot of space per team member (total of 1 cubic foot).

State Skills:
Contestants are tested on their production skills as well as their technical understanding of 3D Visualization and Animation. Testing of production skills and quality is administered through a practical examination wherein the contestants will, from scratch: design, build, animate, texture, and render an object to be presented at the time of competition.
Testing of technical acumen will be administered through a multiple-choice test.

Judging of the practical examination is based on the following criteria:
Planning, Storyboards, Methodology and Execution Animation quality and Believable Motion
Rendering, Textures and Lighting Design and modeling Final Presentation
Contestants are required to plan an action sequence that must be storyboarded. Once the action sequence is defined contestants are required to then animate the pre-defined object to that storyboard sequence. The action sequence must consist of two parts: a slow and visually fluid movement and a fast and powerful movement.
ADDITIVE MANUFACTURING CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire. Cell phones must be turned OFF during the event.

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Cell phones must be turned OFF during the event.
1. Supplied by the technical committee:
   a. All additive manufacturing equipment and material.
2. Supplied by the contestant:
   a. Each team must register a single VALID email address by sending an email FROM THAT ADDRESS to Mark Lyons at mlyons@aetlabs.com.
   b. Contestants will then receive instructions on uploading their files.
   c. Computer system (laptop) with computer design system capable of rendering files in STL format.
   d. USB Drive for transferring CMB file.
   e. Any tools required to provide finished part.
   f. The team must supply the smart phone used for their design. The phone must be powered OFF.

Self-Presentation Requirements:
You must supply a completed resume outlining your education, experience and skill set. Resumes will be judged on effectiveness and clarity.

Purpose:
To evaluate each team’s preparation for employment and to recognize outstanding students for excellence and professionalism in the field of Digital and Additive Manufacturing.

Additive manufacturing embraces a wide range of materials and derivative processes building parts suitable for end-use service. The virtually unlimited design freedom enabled by additive manufacturing allows the creation of shapes and the integration of feature and function that previously required subassemblies. Employment opportunities for creative individuals are growing while industry adopts AM methods. Ready access to workstations and service providers makes the Internet a growing marketplace for public AM gadgets.

Skill Performance:
This contest will be a team-oriented event. Teams will consist of two contestants from the same school in the same.
This contest includes two elements to evaluate teams for employment in additive manufacturing fields.

Element One:
Element one will need to be completed IN ADVANCE OF THE STATE COMPETITION. Your team MUST register with Mark Lyons are mlyons@aetlabs.com to receive the instructions!
The files must be submitted to the Event Manager (details will be provided to the official registered email address of each team) no later than Friday, April 19. NOTE THIS IS THE FRIDAY OF VACATION WEEK. The deadline will not be extended under any circumstance!
Each team will keep an engineering notebook that will demonstrate the design history and intent of the original design. Design considerations:

1. Build time must be no longer than 5 hours and 30 minutes.
2. All parts must be submitted to be printed by the committee in a CMB format.
3. No other parts will be allowed.
4. Assembly will take place the day of the competition.
5. Designs should minimize material usage for both model and support.

Login information for software to virtually estimate print time will be made available to registered contestants. Moving parts that rotate freely must be part of the design. The design will show the benefits of additive manufacturing by incorporating complex geometric shapes.

Process considerations:

1. Self-supporting angles are 45 degrees.
2. More support means longer build time because the machine takes time to switch from model to support on each layer.
3. Air gap for freedom of movement in parts >0.023”.
4. How the file is oriented to be built will affect the amount of support material being built and the overall time of the build.
5. The processing software has 3 different internal fill patterns that will affect material usage and time of build.
7. Models will be printed on a Stratasys F370 (see specifications: http://www.stratasys.com/en/F123/3D-Printers

Element Two:
For the second element, COMPLETED ONSITE at the SkillsUSA competition, teams will receive a challenge to perform within a set timeframe involving a design change. Each team member will be required to participate in the design challenge to demonstrate design program competencies. The printed design and design changes in software will be presented to the judges along with the engineering notebook updated with design change notes from the day of the competition.

If you have questions contact:
Mark Lyons
AET Labs
10 Forrest Rd.
Westford, MA 01886
EMAIL:mlyons@aetlabs.com
ARCHITECTURAL
DRAFTING CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire. NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Contestants may use any brand or type of personal computer from any source. Software must be pre-loaded and configured. Test the system carefully prior to competition. Make sure your computer is able to write to a USB storage device. Be sure to test your computer to ensure it will print to a PDF. Limited on-site technical assistance will be available on contest day.
Each competitor is responsible for bringing their own computer equipment with their choice of CAD software installed and running.
If the computer of choice is a workstation, this equipment must be set up on Thursday, before competition day.
All computers must have Adobe PDF Printer Driver installed.
Do not bring your own printer.
All files will be printed to PDF format and hard copies will be made from these files.
1 cubic foot of reference material
Graph paper
Architect’s scale
Erasers
Hand held calculator
Pencils (mechanical)

National Skills:
Contestants will use their drafting skills to solve an Architectural problem. The problem includes a written test, a hand sketch, and drawings EITHER computer-generated or board drafted. If board drafting, please bring all necessary equipment. The contest tests the contestants’ problem solving abilities, not simply their CAD skills.

State Skills:
Today’s industry requires proficiency in both manual and electronic output of technical documents. It is therefore the scope and intent of the contest to test the student’s proficiency in their electronic (CAD) skills, as well as their manual ability to produce a drawing (sketching).

If you have questions contact:
Mark Lyons
Lyons Share Enterprise
10 Forrest Rd.
Westford, MA 01886
EMAIL:mlyons@aetlabs.com
This competition will be a team of two (2). The Student roles:

The use of lasers of all types in industry is experiencing rapid growth. The need for skilled operators, product designers and creators is growing. Laser engraving systems are being used in advanced manufacturing programs, graphic design programs, and engineering programs.

Proposed Design Challenge:

The national average salary of a Laser Technician is $40,000 - $55,000 a year (with some industries paying up to $77,000K/yr).

The global laser processing market is a fast and growing industry. In 2015, laser processing was already a healthy $9.84 billion industry and it is expected to reach $21.2 billion by 2022, as it’s expanding by 11.6% year-over-year. The global market for laser processing is driven by the rising application of laser products in medical devices and surgeries and rising demand for high quality and authentic end-products. Moreover, stringent government mandates in U.S. and across the globe, for the use of laser technology in engraving and marking products, and the different advantages of laser technology over predictable material processing techniques would drive the market in coming years. The major restraints for laser processing are technical difficulties in high-power lasers, high cost and the high student throughput that can result. Often these systems can be used in conjunction with or instead of other technologies like 3-D engravers often become the most used technology in a FAB Lab or Innovation Lab. They are popular due to the high speed at which they operate and the high student throughput that can result. Often these systems can be used in conjunction with or instead of other technologies like 3-D engravers often become the most used technology in a FAB Lab or Innovation Lab. They are popular due to the high speed at which they operate.

The purpose of this contest is to assess the knowledge and performance skills of the contestants.

Contest Guidelines:

This competition will be a team of two (2), one student focusing on Design and the other focusing on Imaging.

The Design Team Member needs to do the creative design work, and the Imaging Team Member who runs the laser would manipulate the files and cut the image.

The Design Team Member needs to do the creative design work, and the Imaging Team Member needs to take the file and laser engrave the image and laser cut the shape.

Proposed Design Challenge:

The Precision Laser Imaging competition will be comprised of three components. The students will be presented with a finished product.

Phase one: 1.5 hours – Machine orientation. The teams will be divided in half and work with each machine for 45 minutes to orient themselves to the machine. All teams will use each type of machine; one type for each phase of the competition.

Phase two: 1.5 hours Students will be given material and a design to enter into their CAD/Design system software and produce on a laser engraver.
Precision Laser Imaging – Final Competition Outline - 2019

Laser engraving is a common technology used in sign making, product marking, and many other applications in industry. In education, laser engravers often become the most used technology in a FAB Lab or Innovation Lab. They are popular due to the high speed at which they operate and the high student throughput that can result. Often these systems can be used in conjunction with or instead of other technologies like 3D Printing or CNC machining.

The global laser processing market is a fast and growing industry. In 2015, laser processing was already a healthy $9.84 billion industry and it is expected to reach $21.2 billion by 2022, as it's expanding by 11.6% year-over-year. The global market for laser processing is driven by the rising application of laser products in medical devices and surgeries and rising demand for high quality and authentic end-products. Moreover, stringent government mandates in U.S. and across the globe, for the use of laser technology in engraving and marking products, and the different advantages of laser technology over predictable material processing techniques would drive the market in coming years. The major restraints for laser processing are technical difficulties in high-power lasers, high cost and depth of technical knowledge.

The national average salary of a Laser Technician is $40,000 - $55,000 a year (with some industries paying up to $77,000K/yr).

Over the past 5 years the applications for laser engravers had grown substantially. Initially a technology that was primarily used for awards and trophies has grown with applications including:

- Fab/Labs and Innovation Centers
- Medical Equipment Marking
- Packaging
- Prototyping
- Marking
- Engraving
- Medical production applications
- Graphic Design applications
- Sign Making
- Others

The use of lasers of all types in industry is experiencing rapid growth. The need for skilled operators, product designers and creators is growing. Laser engraving systems are being used in advanced manufacturing programs, graphic design programs, and engineering programs.

This competition will be a team of two (2).

Student roles:

The Design Team Member would need to use either Adobe Illustrate or CorelDraw and design the file.

The Imaging Team Member who runs the laser would manipulate the files and cut the image.

The Design Team Member needs to do the creative design work, and the Imaging Team Member needs to take the file and laser engrave the image and laser cut the shape.

Proposed Design Challenge:

The Precision Laser Imaging competition will be comprised of three components. The students will be presented with a finished product.

- Phase one: 1.5 hours – Machine orientation. The teams will be divided in half and work with each machine for 45 minutes to orient themselves to the machine. All teams will use each type of machine; one type for each phase of the competition.

- Phase two: 1.5 hours – Students will be provided one material to be used to produce a standard trophy or award.

- Phase three: 1.5 hours – Students will be supplied a second material to be used to produce a base to hold the award.

For the demonstration event, we will have a laser engraver(s) on-site. One of each type (Trotec & Epilog) to accommodate technology integrated in schools. (Participating partners: E-Stem Solutions & AET Labs) The Trotec Laser Materials Division will supply all of the necessary materials for competition.

Laser types to be used in the competition: Trotec and Epilog (or similar)
TECHNICAL DRAFTING CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire. NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Contestants may use any brand or type of personal computer from any source. Software must be pre-loaded and configured. Test the system carefully prior to competition. Make sure your computer is able to write to a USB storage device. Be sure to test your computer to ensure it will print to a PDF. Limited on-site technical assistance will be available on contest day.
Each competitor is responsible for bringing their own computer equipment with their choice of CAD software installed and running.
If the computer of choice is a workstation, this equipment must be set up on Thursday, before competition day.
All computers must have Adobe PDF Printer Driver installed.
Do not bring your own printer.
All files will be printed to PDF format and hard copies will be made from these files.
1 cubic foot of reference material
Graph paper
Engineer’s scale
Erasers
Hand held calculator
Pencils (mechanical)

National Skills:
The contest evaluates contestant’s preparation for employment and recognizes outstanding students for excellence and professionalism in the field of technical drafting. The contest will focus on the solution of industry-developed problems by applying appropriate technical drafting skills and tools including computer-aided drafting (CAD).

State Skills:
Today’s industry requires proficiency in both manual and electronic output of technical documents. It is therefore the scope and intent of the contest to test the student’s proficiency in their electronic (CAD) skills, as well as their manual ability to produce a drawing (sketching).

If you have questions contact:
Mark Lyons
Lyons Share Enterprise
10 Forrest Rd.
Westford, MA 01886
EMAIL: mlyons@aetlabs.com
SERIES DIRECTOR:
RICK ALLAIN

CONTACT INFORMATION:
KEEFE TECHNICAL SCHOOL
750 WINTER STREET
FRAMINGHAM, MA 01702
rallain@jpkeefehs.org

EVENTS:

GRAPHIC COMMUNICATIONS
Briefing: Duchess Room
Competition: J.P. Keefe Tech’s Graphic Communications Shop
Event Manager: Doug Sturgis

GRAPHIC IMAGING SUBLIMATION
Briefing: Duchess Room
Competition: J.P. Keefe Tech’s Graphic Communications Shop
Event Manager: Steve Lutch

PAINTING & DESIGN TECHNOLOGY
Briefing: Duchess Room
Competition: J.P. Keefe Tech’s Design and Visual Shop
Event Manager: John Hughes

SCREEN PRINT TECHNOLOGY
Briefing: Duchess Room
Competition: J.P. Keefe Tech’s Graphic Communications Shop
Event Manager: Joe Conners
GRAPHIC COMMUNICATIONS CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
- Blue work pants, as shown
- Safety shoes
- Safety glasses
- SkillsUSA Massachusetts T-Shirt, provided
- NO jeans
- NO cell phones allowed
- Safety: avoid a safety violation or being removed from the contest
- NO loose/long hair (must be secured)
- NO loose clothing
- NO jewelry
- NO sneakers

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- Pencil with eraser
- Blue pen
- Ruler/line Gauge
- Calculators may be used but are not a requirement
- Safety glasses worn when necessary

National Skills:
The contest consists of four parts. The contestant is judged on the following: estimating; bindery operations; offset duplication; and final art using a desktop computer and software system.

State Skills:
Contestants will demonstrate their ability to perform selected tasks from the following list of competencies.
The Technical Committee may select any or all tasks from the following list:
1. Handle orders (billing, estimation, work orders, etc.)
2. Produce composition (specify, set, and proof copy)
3. Layout and composition (rough layouts, finished copy and type specs)
4. Operate a Duplicator and complete the required work
5. Calculate/Perform cutting and bindery operations

Operating Equipment:
- Heidelberg Printmaster 46-2
- Challenge 305 Paper Cutter
- Baumfolder 714
- Apple iMac OSX
- Adobe Creative Cloud Software Suite includes InDesign, Photoshop, and Illustrator
GRAPHIC IMAGING
SUBLIMATION PRINTING
CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Blue work pants, as shown  Safety shoes  Safety glasses
SkillsUSA Massachusetts T-Shirt, provided  NO jeans  NO cell phones allowed
Safety: avoid a safety violation or being removed from the contest
NO loose/long hair (must be secured)  NO loose clothing  NO jewelry  NO sneakers

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Pencil with eraser  Blue pen
Ruler/line Gauge  Calculators may be used but are not a requirement
Safety glasses worn when necessary

National Skills:
To evaluate each contestant’s preparation for employment and to recognize outstanding students for excellence and professionalism as a sublimation technician in the field of graphic imaging.

State Skills:
Contestants will demonstrate their ability to perform selected tasks from the following list. The Technical Committee may select any or all tasks from the following list. The competition will assess student participants’ knowledge and skills of graphic imaging sublimation at the testing stations listed below:
Design a digital image  Print transfer sheets using a sublimation printer
Print a graphic on a Mug using a mug press  Design and print a mouse pad
Design and print on tiles  Design and print on a polyester t-shirt
Take a written technical knowledge test

Operating Equipment:
Sawgrass Virtuoso SG400
George Knight DC16 digital combo
Adobe Software: CC includes InDesign, Photoshop, and Illustrator
SCREEN PRINT TECHNOLOGY CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
- Blue work pants, as shown
- Security shoes
- Safety Glasses
- SkillsUSA Massachusetts T-Shirt, provided
- No jeans
- No cell phones allowed
- No loose/long hair (must be secured)
- No loose clothing
- No jewelry
- No sneakers

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- Safety Glasses with side guards, for screen reclaiming
- Ear protection and latex gloves, for screen reclaiming
- Ruler, permanent marker
- Optional: Smock or apron, optical devices
- Safety glasses worn when necessary

State Skills:

Part 1: Screen Inspection  Students are required to examine three screens for defects to determine if each screen is suitable for use:
- Screen frame is free of damage
- Stencil is free of holes that could leak ink
- Screen is free of cuts, splits or punctures
- Screen mesh is not clogged in the image area

Part 2: Screen Coating  Students are required to coat a screen with emulsion
- Select and prepare emulsion
- Evaluate screen for acceptable tolerances
- Coat screen with emulsion
- Place coated screen in a screen dryer

Part 3: Screen Exposure and Washout  Students are required to describe the steps to expose a screen and properly process the image to prepare for printing, which includes:
- Inspect the black film positive (provided) for dirt and marks
- Inspect and protect screen from excess light
- Secure the black film positive to the screen
- Expose screen- remove black film positive
- Select a screen
- Center the black film positive within screen frame
- Place screen and black film positive on an exposure unit

Part 4: Screen Blockout  Students are required to demonstrate proper blockout techniques
- Apply and tape to cover the appropriate non-image areas
- Inspect all non-image areas for complete blockout application

Part 5: Image Registration  Students are required to properly register screens (provided)
- Place screens on the press and course register the image
- Check rag for proper adhesion
- Adjust registration as needed to align for proper registration
- Inspect contact side of screens for excess ink, test screen off contact
- Apply adhesive to shirt boards for proper adhesion
- Print test image on pelon to check for proper registration
- Print proof image on one shirt and dry each one

Part 6: Screen Reclaiming  Students are required to properly describe the steps to reclaim a screen

Part 7: Image Printing  Students are required to properly produce one printed shirts
- Apply adhesive to shirt boards for proper adhesion
- Check rag for proper adhesion
- Inspect contact side of screens for excess ink, test screen off contact
- Print image on shirts and properly dry each one with the dryer
- Checkink supply on each screen

Overall Point Structure: Not all Parts 1-6 will be offered and points will be adjusted accordingly to total 1000 points.
- Parts 1-6: Hands-On Demonstrations = 600 points
- Part 7: Image Printing = 400 points

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PAINTING AND DESIGN TECHNOLOGY CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Blue work pants, as shown
Safety shoes
SkillsUSA Massachusetts T-Shirt, provided

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Safety glasses or goggles
Dust mask
Sanding pad
Putty knife
Rags
Brushes, 2-inch, & 1 1/2-inch (optional)
Razor knife with snap off blade
Level
4” - 6” Putty knife and or straight edge

Clothing Requirements: failure to do so will result in a clothing penalty
Blue work pants, as shown
Safety shoes
SkillsUSA Massachusetts T-Shirt, provided

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Safety glasses or goggles
Dust mask
Sanding pad
Putty knife
Rags
Brushes, 2-inch, & 1 1/2-inch (optional)
Razor knife with snap off blade
Level
4” - 6” Putty knife and or straight edge

Scope of Contest:
Part 1: Prepare surfaces to receive finishes, and apply coatings and finishes to various surfaces. 
Students will demonstrate proper use of tools and materials for protecting surfaces, and general preparations for substrates. They will demonstrate finish application methods using brushes and rollers on a demonstration module with wallboard and various architectural molding. Students are responsible for the proper clean-up of adjacent surfaces and the proper clean-up and disposal of paints.

Part 2: Apply drywall Finish to a level 2 standard.
Students will demonstrate their ability to apply a drywall Finish to a level 2 standard. All joints and interior angles shall have tape embedded in joint compound and shall be immediately wiped with a joint knife or trowel leaving a thin coating of joint compound over all joints and interior angles and exterior corners. Fastener heads and accessories shall be covered with a coat of joint compound. Surface shall be free of excess joint compound. Tool marks and ridges are acceptable. Joint compound applied over the body of the tape at the time of tape embedment shall be considered a separate coat of joint compound and shall satisfy the conditions of this level.

Part 3: Prepare and apply Wallcoverings to wall surface.
Students will set up a work area with wallcoverings and the tools used to install them. They will apply wallcoverings using proper techniques.

Part 4: Prepare and apply computer cut vinyl graphics to a sign surface according to scaled dimensions.
Students will read measurements on a scaled drawing, prepare vinyl letters for application, layout letters according to scaled measurements, and apply vinyl lettering to substrate.
FRESHMEN EVENTS

SERIES DIRECTOR:
CAROL HARTNETT

CONTACT INFORMATION:
(339) 793-1266
carolbhartnett@gmail.com

EVENTS:

CAREER CHOICE COMMENTARY
Briefing: Salon C
Competition: Embassy Suites, Clark Room
Event Manager: Kim Lynch

Attendance at the Freshmen Events General Session is required.

EXPLORATORY PROJECT DEMONSTRATION
Briefing: Salon C
Competition: Embassy Suites, Wellesley Room
Event Manager: John Maré

Attendance at the Freshmen Events General Session is required.

STEM IMMERSION CHALLENGE (Limited Demo)
Briefing: Salon C
Competition: Embassy Suites, Harvard Room
Event Manager: Brenda Quinn

Attendance at the Freshmen Events General Session is required.

STICKER DESIGN
Briefing: Salon C
Competition: Embassy Suites, Bennington/Burklee Room
Event Manager: TBA

Attendance at the Freshmen Events General Session is required.

FRESHMEN EVENTS GENERAL SESSION
Location: Embassy Suites, Berklee Room
CAREER CHOICE
COMMENTARY
CONTEST (FRESHMEN ONLY)

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire. NO cell phones allowed

Equipment and Materials, Supplied by the Technical Committee:
Stopwatch Time Cards

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Note cards (if desired by the contestant)

Purpose: To evaluate each contestant’s ability to prepare and present clearly and effectively a series of thoughts relating to his or her Freshman Exploratory experience.

State Skills:
Knowledge Performance: There is no written exam for this contest.
Skill Performance: This contest assesses basic public speaking skills through the delivery of a three to five minute commentary.

Contest Guidelines:
1. The topic for the Career Choice Commentary is based on the Freshman Exploratory experience. Within this topic, contestants might illustrate or discuss any of the following:
   • How the Exploratory program helped the contestant to evaluate and choose a trade area to pursue.
   • How the Exploratory program taught the contestant to value different talents/skills and to appreciate the talents they have as well as the talents of others.
   • How the Exploratory program experience promotes decision-making and problem solving by teaching students to process all perspectives in a respectful and productive manner.
   • How the Exploratory program helped to broaden the awareness of the contestant to foster an open-minded approach to learning.
   • How the contestant made the decision to pursue the particular trade they have chosen and how that decision aligns with their life goals.
2. The commentary will be three to five minutes in length. Penalty: five points will be deducted for each thirty seconds or fraction thereof under three minutes or for each thirty seconds or fraction thereof over five minutes.
3. Time will be started when the commentary begins. The timer will signal the speaker at three minutes, four minutes and four minutes thirty seconds.
4. Visual aids and props are not permitted.
5. Note cards are permitted.
6. The contestant will not mention his or her name, school or city.
7. Contestants must submit one typewritten copy of the commentary to the technical committee at the briefing meeting on Thursday evening. It should include school name, contestant’s name, and commentary title.
Judging Guidelines: The following criteria will be used to judge the commentary:

- Opening – has a strong, clear opening
- Voice – voice is well modulated and controlled and carries the rhythm of the speech
- Platform deportment – speaker is poised and demonstrates good control of movement
- Organization – commentary is well organized and the organization can be easily followed
- Mechanics – proper grammar is used and diction is clear
- Closing – closing provides a clear and solid conclusion and summary of the thoughts
- Effectiveness – assigned topic is covered, is clear and achieved
- Timing – commentary falls with the three to five minute contest requirement
- Clothing – clothing meets the contest requirements.

**Students are expected to attend the Freshmen Events General Session, see the State Conference Program for the location and time.**

Eligibility: This contest is open to active SkillsUSA members currently enrolled in the Freshman Exploratory. Exploratory may be completed before participating in the competition but contestant must still be in their Freshman year of their CTE experience.

Observer Rule: Observers will be allowed to hear the speeches in the presentation room provided space is available. No talking or gesturing will be permitted. No observers will be allowed in the assembly area. No member of the audience will be permitted to enter or leave the demonstration room while a contestant is speaking. Members of the audience will not be allowed to use cameras, video recorders or tape recorders.

Arrangement of Rooms:
The commentary presentation room will be furnished with a podium, two tables, each with chairs for judges, timekeeper and room monitor.
EXPLORATORY PROJECT DEMO CONTEST (FRESHMEN ONLY)

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) or official attire for the occupational area of the demonstration.
NO cell phones allowed

Equipment and Materials, Supplied by the Technical Committee:
Stopwatch Performance space

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
All materials and equipment needed for the demonstration

Purpose: To evaluate each contestant’s ability to demonstrate and explain the steps involved in creating the contestant’s favorite project from the freshman Exploratory experience. The actual finished project from Exploratory must also be presented.

Eligibility: This contest is open to active SkillsUSA members currently enrolled in the Freshman Exploratory. Exploratory may be completed before participating in the competition but contestant must still be in their Freshman year of their CTE experience.

Arrangement of Rooms:
The commentary presentation room will be furnished with a podium, two tables, each with chairs for judges, timekeeper and room monitor.

State Skills:
Knowledge Performance: There is no written exam for this contest.
Skill Performance: The contest requires the demonstration of the steps involved in creating their project sample. The contestant must bring the finished project with them, but may bring additional components to demonstrate the creation of the finished project. The demonstration shall be accompanied by a clear explanation of the project and why this particular project was chosen.

Contest Guidelines:
1. An actual technical skill must be performed as opposed to an illustrated talk.
2. Note cards and other reference materials are permitted.
3. Any Freshman exploratory project may be demonstrated.
4. The demonstration shall be at least three minutes in length but shall not exceed five minutes. Penalty: Five points will be deducted for each 30 seconds under three minutes or fraction thereof over five minutes.
5. Time will be started when the demonstration begins. The timekeeper will signal the speaker at three minutes, four minutes, and four minutes thirty seconds.
6. Contestants will be allowed five minutes to set up the demonstration and five minutes to clear the demonstration room. Five points will be deducted for each thirty seconds or fraction thereof over the five-minute allowance.
7. A performance space of 8’x12’ will be provided, that contains a 30”x96” table and one duplex (two plug ins) 110-volt electrical outlet.
8. Any visual or auditory aids (signs, charts, transparencies, slides, diagrams, CD’s) are to be prepared by contestants. Professionally
prepared visuals and audio may not be used. No open flames; no combustible or hazardous chemical compounds, no fluids containing pathogens or toxic chemicals and no pressurized containers will be allowed.

9. The contestant will not mention his or her name, school or city.

10. The demonstration is an individual performance; however, assistants may be used to set up and dismantle the demonstration. Models or assistants may be used in the demonstration, but will not say or do anything that assists the demonstration other than to serve as a model as needed for a facial, clothing design demonstration, etc.

11. Basic safety practices related to the skill performed must be followed. Safety violations will be subject to penalties of one to ten points. Judges may interrupt the demonstration for serious violations.

Students are expected to attend the Freshmen Events General Session, see the State Conference Program for the location and time.
STEM IMMERSION
CHALLENGE (FRESHMEN ONLY)
(LIMITED DEMO)

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Blue work pants, as shown
SkillsUSA Massachusetts T-Shirt, provided
Safety shoes
Safety glasses
NO jeans
NO cell phones allowed

Safety: avoid a safety violation or being removed from the contest
NO loose/long hair (must be secured)
NO loose clothing
NO jewelry
NO sneakers

Equipment and Materials, Supplied by the Technical Committee:
LittleBits  Stopwatch  Performance Space  Presentation Schedule

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
All materials and equipment needed for the presentation, such as (optional) laptop, notebook, pens, pencils, markers, list of STEM careers

STEM agents are the wave of the future. Many STEM careers that will exist over the next 20 years have not even been defined yet. Therefore, students whose general knowledge of technology and understanding between devices and their primary capabilities will be those students best ready for the STEM careers of the future. Data from the Bureau of Labor Statistics shows that STEM professions are expected to expand 1.7 times faster than non-STEM occupations between 2010 and 2020, and the annual average wage for STEM workers is high at a collective $85,570 — 81 percent more than the national average of $47,230 for all jobs.

Eligibility: This contest is open to active SkillsUSA members currently enrolled in the Freshman Exploratory. Exploratory may be completed before participating in the competition but contestant must still be in their Freshman year of their CTE experience. The Freshmen STEM Immersion Challenge competition is designed to serve students who have completed 2-3 of the Freshman Exploratory courses in the following areas:

- CAD
- Electronics
- Robotics
- Mechatronics
- Automated Manufacturing
- Engineering
- IT or IST
- Graphic Arts

General Requirements:
Students will apply general skills used in the exploratory courses and LittleBits to solve a new problem that will assist someone with restricted abilities. Students will work in teams of two. Students must bring a laptop computer with the LittleBits code kit software downloaded. The software is free and available on the LittleBits web site. The link to download is:

https://shop.littlebits.com/pages/code-kit-download

If you are unable to download the software successfully and need assistance with the software download please arrive at the competition 30 minutes early for technical assistance. You must be able to connect to the Internet. Students will use parts and pieces from the LittleBits Stem Classroom Solution (available from Educational STEM Solutions, LLC).

Other miscellaneous supplies will be donated by workshop coordinator.
Contest Guidelines:

1. **Introduction to LittleBits: 1 Hour**
   a. Give the Students an introduction to LittleBits
      i. Covering the Engineering process
      ii. Bit basics: What they are and how they work.
      iii. How to use the bits.
      iv. Coding with bits.
   b. Students will get a hands-on experience with LittleBits and have a chance to do a sample design problem.

2. **Design Problem: 2 Hours**
   a. Introduction to the design subject and the problem: Question and Answer period.
   b. Design Problem must consider the following:
      i. Safety
      ii. Energy Efficiency
      iii. Design and build a project/device to assist someone with restricted abilities.
   c. Students should attempt to map the subject to the Career area in which they are enrolled.

3. **Design Presentation: lasting no more than 5 minutes**
   a. The students will be required to create a presentation lasting no more than five minutes on their design solution to the judging committee.

Students are expected to attend the Freshmen Events General Session, see the State Conference Program for the location and time.
STICKER DESIGN
CONTEST  (FRESHMEN ONLY)

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire. NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
1. Supplied by the technical committee:
   a. Timekeeper and judges
   b. All necessary information for the judges and technical committee
   c. Projector and screen d. 8.5”x11” document/photo frame
2. Supplied by the contestant:
   a. Rendering of sticker design
   b. All competitors must create a one-page résumé and submit it at the contest site.
   c. Means of presentation: Computer, tablet, notebook, poster or other media of your choice if desired to make your presentation to the judges. Contestant must supply his or her own adaptor connection for the projector. Digital presentation is not required.

THE CONFERENCE PROGRAM WILL HAVE A STICKER TRADING GALLERY FOR PARTICIPANTS TO TRADE AND DISPLAY SCHOOL STICKERS. ALL STICKER DESIGN PARTICIPANT SCHOOLS SHOULD SUPPLY THEIR DELEGATION WITH STICKERS TO TRADE (ESPECIALLY DELEGATES). SCHOOLS NOT COMPETING IN STICKER DESIGN WILL ALSO BE ENCOURAGED TO BRING STICKERS!

Purpose: To evaluate a contestant’s creative, technical and oral presentation skills and to recognize outstanding students for excellence and professionalism.

Eligibility: This contest is open to active SkillsUSA members currently enrolled in the Freshman Exploratory. Exploratory may be completed before participating in the competition but contestant must still be in their Freshman year of their CTE experience.

State Skills:
The contest consists of two parts:
1. Evaluation of the sticker design
2. Oral presentation and questions and answers session. All contestants will be asked the same questions, which judges will determine before the start of the contest.

Skill Performance:
The contest is designed to assess the ability of the competitor to design and produce a drawing of that design, as well as give a presentation regarding all aspects of his or her creation of the design.

Contest Guidelines:
1. All entries must be rendered in color (full color or two color).
2. Entries can be created in a design software package such as Illustrator, Photoshop or other comparable software. Entries may also be hand-drawn, painted or rendered in colored pencils or markers.
3. All entries should be submitted with two versions of the art on a single 8.5”x11” page. The sticker design will be restricted to 2” (2 1/2” for oval) preformatted labels: Avery Labels - Product #80510 or similar, which gives contestants 3 options of sticker shape: Square, round, and oval.

Avery Label #80510 Square

Avery Label #80510 Circle

Avery Label #80510 Oval

Sample Submission

Actual Size: 2”wide x 2”tall
Square Sticker

Actual Size: 2”wide x 2”tall
Circle Sticker

Actual Size: 2 1/2” wide x 1 1/2” tall
Oval Sticker

All actual size sticker designs must be presented as one of the above three shapes and all stickers cannot exceed 2” maximum (2 1/2” at its largest dimension for oval)

Deductions will be taken for every 1/8” over or under 7” on your larger artwork version and every 1/16” over or under 2” (2 1/2” at its largest dimension for oval) on your actual size artwork version. Both designs should be identical. Wording on the sticker must reference the name of your school. Your contest number for the state conference must be placed on the back of your submitted artwork.

4. The SkillsUSA emblem or SkillsUSA logo should appear on the sticker.

5. All copyright laws must be followed in the creation of the design.

6. Contestants will deliver a three- to five minute presentation regarding their design. Talking points should include:
   a. How he or she came up with the design of the sticker
   b. The process in which he or she designed the sticker
   c. Why he or she feels it represents their school
   d. What are its unique qualities
   e. Why other students/advisors would want to have it

7. After your presentation, the judges will ask questions related to Sticker Design, and SkillsUSA at your school.

8. A space will be provided for you to make a poster (not used for judging) to promote your sticker design/school to the public, for viewing at the state conference. Your board should be a single poster board.

Students are expected to attend the Freshmen Events General Session, see the State Conference Program for the location and time.
SERIES DIRECTOR:  
TARA LANE

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(781) 864-6537  
lane@tri-county.us

EVENTS:

HEALTH OCCUPATIONS KNOWLEDGE BOWL  
Briefing: Zachary’s Restaurant  
Competition: Holiday Inn, Marlborough  
Event Manager: Peggy Reilly-O’Brien

MEDICAL ASSISTANT  
Briefing: Marlboro Room  
Competition: Blackstone - Competition Center  
Event Manager: Penny Hennessy

NURSE ASSISTANT  
Briefing: Marlboro Room  
Competition: Blackstone - Competition Center  
Event Manager: Tricia Munger

PRACTICAL NURSING  
Briefing: Marlboro Room  
Competition: Blackstone - Competition Center  
Event Manager: Justine Naper
HEALTH KNOWLEDGE BOWL CONTEST

REQUIREMENTS AND SCOPE OF CONTEST
Please refer to the 2019-2020 SkillsUSA Technical Standards for additional information

Clothing Requirements:
failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards)
Blazer is optional or Professional Business Attire.

Tool Requirements:
One-page type-written resume required for every contestant,
failure to do so will result in a 50-point penalty
NO cell phones allowed

State Skills: The state contest will reflect the standards adopted by the National Technical Committee. Please go to the SKILLS USA website and print up the contest description for HEALTH KNOWLEDGE BOWL. Scope of Contest information reads: Core standards from the National Health Care Core Skill Standard Project make up the categories from which Questions are developed for the Health Knowledge Bowl contest.

Standards and Competencies: The categories from which questions will be developed have been clarified in the technical standards for 2018-2019. Please read. The content of the contest is under Standards and Competencies. Included in the BOWL 3.0 Standard is the Current Event topic. There will be four Current Event questions (2 per Half). Questions will be chosen from the HEALTH SECTION of the USA TODAY newspaper, dated from December 1, 2018 to April 15, 2019.

Resource Text Books: The only references used for determining the questions are: USA TODAY (NEWSPAPER); DIVERSIFIED HEALTH OCCUPATIONS; HEALTH CAREERS TODAY; AND HEALTH CARE SCIENCE TECHNOLOGY; CAREER FOUNDATIONS (CURRENT EDITION TEXTBOOKS). For the State Contest, the postsecondary teams’ questions will be the same questions as the secondary teams’ questions. Although both secondary and post-secondary teams are completing simultaneously at the state level, please remember that there is one national slot for each education level.

Each contestant will be required to submit a one-page, typewritten résumé and submit it to the state technical committee. The résumé will be collected Friday at the competition site. There will be a point deduction of 5 points for each team member that does not submit a résumé. This point deduction will be taken off the total final score. Each Team:is responsible to arrive with the required supplies: Thick Black markers, pencils, 75 sheets of white paper, and 30 sheets of colored paper for scrap. Any team that does not have the required supplies will not be allowed to participate in the contest.
Carefully Review the SCORING section of the New Technical Standards (next page): Please be aware of the game rule that requires each team to identify a “captain”. The captain will be the team member who stands with the team’s answer.

Judges: We will follow the national contest standard, 3 to 4 impartial judges will be utilized. For new advisors there are sample questions on the National SkillsUSA Championships “Contest Projects” available on our website.

Observer rules: will be enforced according to National Standards. No observers will be allowed to talk or gesture to the contestants. In accordance with the National Standards no recording devices will be permitted to be used during the contest unless approved by the State management team. There will be no recording of questions or topics allowed during the contest, this includes note taking by anyone present. Cell phone and other electronic communication equipment use are prohibited within the room where the contest will be held.

Scoring:

a. Each team will begin each quarter with 0 points.
b. A team may choose to answer the question or not answer the question.
c. If the team does not answer the question (signified by remaining seated) it will neither gain nor lose points.
d. If a team chooses to answer and is correct, it will be awarded 10 points. If a team chooses to answer and is incorrect, 10 points will be deducted.
e. The judges will make the scores visible to all teams before the start of each quarter.
f. Contestants may use calculators to assist with medical math questions.
g. Score discrepancies must be addressed by the team captain prior to the next question.
h. A written test will be administered during the contest. This test will be completed as a team. The score from the written test will not be announced but will be added to the final total score.
i. The winning team is that team which has accumulated the highest total points (total score, plus written test score, less clothing penalties).
j. In the event of a tie, the tie will be broken as follows:
   1. First tiebreaker: The team with the highest written test score.
   2. Second tiebreaker: The compiled score of team members on the Employability Skills Test.
PRACTICAL NURSING CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty

- White scrubs, as shown
- NO personal name/school ID on clothing
- Hair must be off face and collar
- NO heavy perfume/makeup/cologne
- Nails short and clean
- NO nail polish, gels or tips
- White stockings / socks
- NO gum chewing
- White Lab coat (optional)
- NO jewelry except watch with second hand
- Clean all-white leather shoes (No canvas)
- NO open toes or open back shoes
- Athletic style shoes are acceptable, must meet criteria
- No facial piercing allowed
- Safety glasses
- NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty

- Small notebook
- Watch with second hand
- 2 pens - black ink only
- Bandage scissors

STUDENTS SHOULD BE TRAINED IN BOTH CPR AND FIRST AID.

FOR THE NATIONAL CONTEST YOU WILL HAVE TO BRING CURRENT CPR CARD FROM EITHER THE AMERICAN HEART ASSOCIATION OR AMERICAN RED CROSS AND A CURRENT FIRST AID CERTIFICATION CARD FROM EITHER THE AMERICAN RED CROSS OR NATIONAL SAFETY COUNCIL

National Skills:
Students competing in the Practical Nursing contest are required to demonstrate knowledge and skill in performing patient care procedures representative of the general areas of competence required in a practical nursing program, including CPR. These include the ability to use and identify equipment; manipulate medical materials in the taking of vital signs, patient assessment, infection control, sterile technique, medication administration, proper delegation and appropriate scope and practice.

State Skills:
Contestants should be familiar with all the Standards and Competencies as mentioned in National Technical Standards 2019-2020 as follows:

PN 1.0 — Provide coordinated care to meet clients’ individualized needs
PN 3.0 — Implement procedures that provide quality assurance
PN 4.0 — Provide goal-oriented patient care through the development of nursing care plans, communication within the healthcare team and individualized patient care
PN 5.0 — Create a safe environment for patients and coworkers to ensure safety to meet individualized client needs
PN 6.0 — Prepare a client for medical treatments and procedures including diagnostic tests, surgery and delivery
PN 9.0 — Observe and communicate changes in a client’s medical status
PN 10.0 — Evaluate a patient’s health state and provide emergency medical care to a patient when needed
PN 14.0 — Anticipate client’s needs for pain management and educate client on pain coping methods
PN 15.0 — Provide patients with basic care such as monitoring patient health and ensuring patient comfort
PN 17.0 — Educate clients on adaptation and coping skills needed to deal with emotional and physical illness
MEDICAL ASSISTANT
CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements:  failure to do so will result in a clothing penalty
White scrubs, as shown  NO personal name/school ID on clothing
Hair must be off face and collar  NO heavy perfume/makeup/cologne
Nails short and clean  NO nail polish, gels or tips
White stockings / socks  NO gum chewing
White Lab coat (optional)  NO jewelry except watch with second hand
Clean all-white leather shoes (No canvas)  NO open toes or open back shoes
Athletic style shoes are acceptable, must meet criteria  NO cell phones allowed

Tool Requirements:  One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
2 pens-- black ink only  Safety glasses/shields
Watch with second hand

STUDENTS SHOULD BE TRAINED IN BOTH CPR AND FIRST AID. NO CARD NEEDED FOR THIS CONTEST

National Skills:
Professional medical assisting technicians judge contestants on the basis of general office skills, communication skills, identification of anatomy and instruments, and on a variety of clinical procedures and techniques. The contestants are asked to assess a situation in a short period of time and perform a skill required for that situation. They are judged on speed, the use of correct safety measures, and their ability to interact personally with a patient.

State Skills:
Contestants should be familiar with all the Standards and Competencies as mentioned in National Technical Standards 2019-2020 as follows:
MA 1.0 — Perform general office procedures to accreditation and certification standards recognized by the American Medical Association
MA 4.0 — Perform general laboratory procedures to accreditation and certification standards recognized by the American Medical Association
MA 5.0 — Perform hematology procedures to accreditation and certification standards recognized by the American Medical Association
MA 6.0 — Perform electrocardiogram (EKG) procedures to accreditation and certification standards recognized by the American Medical Association
MA 8.0 — Perform clinical office procedures to accreditation and certification standards recognized by the American Medical Association Health Occupations: Core Knowledge and Skills reference 1. Academic Foundations 3. Safety Core. 4. Infection Control and Asepsis
NURSE ASSISTANT
CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
White scrubs, as shown
Hair must be off face and collar
Nails short and clean
White stockings / socks
White Lab coat (optional)
Clean all-white leather shoes (No canvas)
Athletic style shoes are acceptable, must meet criteria
NO personal name/school ID on clothing
NO heavy perfume/makeup/cologne
NO nail polish, gels or tips
NO gum chewing
NO jewelry except watch with second hand
NO open toes or open back shoes
NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Small notebook
Watch with second hand
2 pens - blue or black ink
Safety glasses

STUDENTS SHOULD BE TRAINED IN BOTH CPR AND FIRST AID, BUT DO NOT NEED CERTIFICATION CARDS FOR STATE CONTEST. THEY WILL NEED TO SHOW CPR CARDS AT THE NATIONAL CONTEST.

National Skills:
Students competing in the nurse assisting contest are required to demonstrate knowledge and skill in performing patient care procedures representative of the general areas of competence required in nurse assisting, including CPR. All procedures must be performed using safety precautions and correct body mechanics. All skills demonstrated will be based on nationally accepted accreditation and certification standards recognized by the American Medical Association Contestants, as part of the demonstration, should voluntarily express pertinent information. Examples may include the ability to use and identify equipment; manipulate medical materials in the taking vital signs, height, weight.

State Skills:
Contestants should be familiar with all the Standards and Competencies as mentioned in National Technical Standards 2019-2020 as follows:
NA 4.0 — Explain infection control and methods of preventing the spread of infections
NA 5.0 — Perform nurse assistant skills/procedures including dressing, undressing and bathing patients, Foley catheter care, providing hair and oral care, and transferring, turning and assisting patients with walking
NA 7.0 — Provide patient with basic nursing procedures and restorative care
NA 8.0 — Monitor patient’s vital signs
NA 9.0 — Perform adult, child and infant CPR and first aid
HEALTH OCCUPATIONS B

SERIES DIRECTOR:
ERIN ROY

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EVENTS:

BASIC HEALTH CARE
Briefing: Marlboro Room
Competition: Blackstone - Health Services Shop—310B
Event Manager: Jane Case

DENTAL ASSISTING
Briefing: Marlboro Room
Competition: Blackstone - Dental Lab—670B
Event Manager: Tricia Wosney

FIRST-AID/CPR
Briefing: Marlboro Room
Competition: Blackstone - Competition Center
Event Manager: Rob Cecil
BASIC HEALTH CARE
CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty

<table>
<thead>
<tr>
<th>Clothing Requirement</th>
<th>Exception</th>
</tr>
</thead>
<tbody>
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<td>NO open toes or open back shoes</td>
</tr>
<tr>
<td>Athletic style shoes are acceptable, must meet criteria</td>
<td>NO cell phones allowed</td>
</tr>
</tbody>
</table>

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty

Safety glasses
Watch with second hand
Pen (black ink)
Any equipment and supplies for oral table-top presentation

State Skills:
The contest evaluates a contestant’s beginning level of health occupations knowledge and skills and recognizes outstanding students for excellence and professionalism. The contestants’ skills may be evaluated through a written test and/or a skill performance.

Contestants will demonstrate their knowledge and ability to perform procedures or skills selected from the following list of competencies. These skills may be evaluated through a written test and/or a skill performance at ten (10) different stations.

1. Employment Skills: This station will consist of completing a job application and demonstrating interview skills. (Refer to the SkillsUSA Championships Technical Standards 2019-2020) Each contestant must submit a one-page typewritten resume prepared in advance to be handed in at the competition site on Friday. The following information must be contained in the one-page resume:
   a. Name, Address and Phone Number
   b. Career Objective
   c. Education and Training
   d. Work Experience (beginning with present employment listing specific responsibilities)
   e. Community/Volunteer Work
   f. Memberships, Major Accomplishments, Awards Earned
   g. References Upon Request

2. Academic Foundations - CARE 1.0 Apply academic knowledge of life sciences as related to the health care professions.

3. Safety - CARE 6.0 Create a safe working environment.


5. Communication Skills - CARE 2.0 Express verbal and nonverbal communication skills CARE 4.0 Epitomize quality employment and teamwork skills.
BASIC HEALTH CARE Continued

6. **Ethical/Legal** - Care 5.0 Differentiate between law and ethics

7. **Infection Control / Advanced Asepsis** - CARE 6.0 Create a safe working environment
   - 6.3 Practice infection control
   - 6.4 Employ standard safety precautions/body substance isolation techniques
   - 6.5 Demonstrate aseptic technique

8. **Measurements** - CARE 4.0 Epitomize quality employment and teamwork
   - 4.2.1 Measure and record through 4.2.4 Time clock

9. **Emergency Care Component**: Perform basic adult, child, or infant CPR/ demonstrate emergency measures or treatments for choking, shock, bandages, splints and common medical emergencies. Latest American Red Cross/American Heart Association CPR standards will be used.

10. **Prepared Presentation** - each contestant will deliver a prepared 5-7 minute presentation.
   - a. The purpose of the presentation is to present a topic related to basic health care through demonstration, display and/or explanation. (see Scope of the Contest Section Presentation Guidelines and Purpose in the SkillsUSA Championships Technical Standards 2019-2020)
   - b. A presentation will be compact, no larger than 30” x 30” x 30”. A 4’ x 6’ space and table will be available. Any visual aids (signs, charts, transparencies, slides, diagrams) are to be prepared by the contestants. No pressurized aerosol cans of any kind will be permitted, and no compressed air, gas, or flammable liquid may be used.
   - c. All employers’ names and manufacturers’ trade names must be covered or removed.
   - d. The demonstration will neither promote nor advertise any commercial organization or product.
   - e. The title should designate the exact nature of the presentation. Catchy titles are not appropriate to the scientific and educational purpose of the presentation.
   - f. The prepared presentation does not include another person acting as a patient.
   - g. Contestants will have access to a laptop and smartboard in the presentation room.

**PLEASE NOTE**

1. All skills demonstrated will be based on nationally accepted accreditation and certification standards.
2. The latest American Red Cross/American Heart Association CPR standards will be used. Note: First Aid & CPR cards are not required for this event.
3. Refer to the 2019-2020 National SkillsUSA Championships and Technical Standards Book for further explanations.

**Observer Rules:**

Observers will not be allowed to view the students during the competition.
Talking or gesturing by the observers may result in disqualification of the contestant.
Observers will not be permitted to communicate with contestants in the holding/assembly.
DENTAL ASSISTING CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: required for every contestant, failure to do so will result in a clothing penalty
- White scrubs, as shown
- Hair must be off face and collar
- Nails short and clean
- White stockings / socks
- White Lab coat (optional)
- Clean all-white leather shoes (No canvas)
- Athletic style shoes are acceptable, must meet criteria

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- 2 - #2 pencils (1 red and 1 blue)
- Watch with second hand
- Safety goggles
- 1 - Black pen

NOTE: FIRST AID/CPR CARDS ARE NOT REQUIRED FOR THIS EVENT

Latest American Red Cross/American Heart Association CPR standards will be used.

Scope of Contest:
The contest is defined by the ability to perform the procedures specified in the ninth edition of the Task Analysis for Dental Assisting National Boards Inc. (DANB) Examinations and as determined by the SkillsUSA Health Occupations technical committee. A copy of the standards may be purchased from:
DANB • 676 N. St. Clair, Suite 1880 • Chicago, IL 60611 • Phone: 800-FOR-DANB • Web: www.danb.org
Other recommended resources include Modern Dental Assisting (Torres and Ehrlich).

Knowledge Performance:
The contest will include a written knowledge exam assessing knowledge of dental foundations, communication skills, safety, infection control and asepsis, employment skills and law/ethics.

National Skills:
To evaluate each contestant’s preparation for employment and to recognize outstanding students for excellence and professionalism in the field of dental assisting.

State Skills:
The skills included in the contest will be selected from national competency categories and may involve total procedures or tasks that are part of the procedures. (Refer to SkillsUSA Championships Technical Standards 2019-2020 for complete listing)

1. Chair side Assisting - DA 4.0 Apply chair side assisting procedures using guidelines specified in the ninth edition of the Task Analysis of Dental Assisting National board, Inc. (DANB) for examinations and as determined by the national SkillsUSA Heath Occupations Technical Committee
2. Laboratory Procedures - DA 5.0 Apply dental laboratory procedures utilizing various dental material using guidelines specified in the ninth edition of the Task Analysis of Dental Assisting National board, Inc. (DANB) for examinations and as determined by the national SkillsUSA Health Occupations Technical Committee.

3. Patient Assessment Procedures - DA 2.0 Assess the client’s condition following good practices based on guidelines specified in the ninth edition of the Task Analysis of Dental Assisting National board, Inc. (DANB) for examinations and as determined by the national SkillsUSA Health Occupations Technical Committee.

4. Dental Materials - DA 5.0 Apply dental laboratory procedures utilizing various dental material using guidelines specified in the ninth edition of the Task Analysis of Dental Assisting National board, Inc. (DANB) for examinations and as determined by the national SkillsUSA Health Occupations Technical Committee.

5. Office Management Procedures - DA 1.0 Monitor and manage safety and infection control using procedures specified in the ninth edition of the Task Analysis of Dental Assisting National board, Inc. (DANB) for examinations and as determined by the national SkillsUSA Health Occupations Technical Committee.

6. Radiography Procedures - DA 1.0 specifically 1.7, 1.8

7. Employability - each contestant must submit a one-page typewritten résumé prepared in advance to be handed in at the competition site on Friday. The following information must be contained in the one-page résumé:
   - Name, Address and Phone Number
   - Career Objective
   - Education and Training
   - Work Experience (beginning with present employment listing specific responsibilities)
   - Community/Volunteer Work
   - Memberships, Major Accomplishments, Awards Earned
   - References Upon Request

8. Infection Control - DA 1.0 Monitor and manage safety and infection control using procedures specified in the ninth edition of the Task Analysis of Dental Assisting National board, Inc. (DANB) for examinations and as determined by the national SkillsUSA Health Occupations Technical Committee.


Observer Rules:
Observers will not be allowed to view the students during the competition.
Talking or gesturing by the observers may result in disqualification of the contestant.
Observers will not be permitted to communicate with contestants in the holding/assembly.
FIRST AID/CPR CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: required for every contestant, failure to do so will result in a clothing penalty
- White scrubs, as shown
- NO personal name/school ID on clothing
- Hair must be off face and collar
- NO heavy perfume/makeup/cologne
- Nails short and clean
- NO nail polish, gels or tips
- White stockings / socks
- NO gum chewing
- White Lab coat (optional)
- NO jewelry except watch with second hand
- Clean all-white leather shoes (No canvas)
- NO open toes or open back shoes
- Athletic style shoes are acceptable, must meet criteria
- NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- Safety glasses
- Watch with second hand

STUDENTS SHOULD BE TRAINED IN BOTH CPR AND FIRST AID.
FOR THE CONTEST YOU WILL HAVE TO BRING CURRENT CPR CARD FROM EITHER THE AMERICAN HEART ASSOCIATION OR AMERICAN RED CROSS
AND A CURRENT FIRST AID CERTIFICATION CARD FROM EITHER THE AMERICAN RED CROSS OR NATIONAL SAFETY COUNCIL

State Skills:
To evaluate each contestant’s ability to react positively in simulated demanding first aid intervention and to recognize excellence and professionalism in the career and technical student’s first aid skills.

1. Contestants will demonstrate their ability to perform procedures or take appropriate action based on scenarios presented related to the following topic areas:
   - CPR 1.0 Contestants will demonstrate competency to proficiently perform procedures or take appropriate action based on scenarios presented related to the following topic areas:
   - CPR 2.1 Demonstrate skills in performing CPR with AED (only college/postsecondary will demonstrate AED skills)
   - CPR 3.1 Demonstrate skills in performing CPR for child
   - CPR 4.1 Demonstrate skills in performing CPR for infant
   - CPR 5.1 Demonstrate skills in performing choking emergencies for conscious/unconscious adult
   - CPR 6.1 Demonstrate skills in performing choking emergencies for conscious/unconscious child
   - CPR 7.1 Demonstrate skills in performing choking emergencies for conscious/unconscious infant
   - CPR 8.1 Demonstrate skills in performing interventions and care for seizures/diabetic emergencies
   - CPR 9.1 Demonstrate care dealing with muscle, bone and joint injuries
   - CPR 10.1 Demonstrate care/control dealing with bleeding/wound care
   - CPR 11.1 Demonstrate care for first-degree, second-degree, and third-degree burns

2. All skills demonstrated will be based on nationally accepted standards as identified by the American Red Cross for first aid emergencies and the American Red Cross/American Heart Association for CPR and the National Safety Council. Latest American Red Cross/American Heart Association CPR standards will be used.

3. Contestants will take a written test that will constitute no more than 20% of the total score. Based on the American Red Cross and American Heart Association manuals.
4. Employability - each contestant must submit a one-page typewritten resume prepared in advance to be handed in at the competition site on Friday. The following information must be contained in the one-page resume:
   a. Name, Address and Phone Number
   b. Career Objective
   c. Education and Training
   d. Work Experience (beginning with present employment listing specific responsibilities)
   e. Community/Volunteer Work
   f. Memberships, Major Accomplishments, Awards Earned
   g. References Upon Request

Observer Rules:
Observers will be allowed to view the scenarios as the contestants participate provided there is space available. Talking or gesturing by the observers may result in disqualification of the contestant. Observers will not be permitted to communicate with contestants in the holding/assembly area. Refer to General Regulations, 2019-2020 SkillsUSA Championships Technical Standards regarding photography rules.
SERIES DIRECTOR:
DEBORAH BRIGHTMAN

CONTACT INFORMATION:
GR. NEW BEDFORD REGIONAL TECHNICAL SCHOOL
1121 ASHLEY BOULEVARD
NEW BEDFORD, MA 02745
(508) 998-3321
deborah.brightman@gnbvt.edu

EVENTS:

EARLY CHILDHOOD EDUCATION
Briefing: Marlboro Room
Competition: Blackstone - Health Services Shop—311B, 300B
Event Manager: Judith Thornhill & Pauline McCready

HEALTH OCCUPATIONS PROFESSIONAL PORTFOLIO
Briefing: Marlboro Room, **bring notebook/binder**
Employability Testing: Blackstone - At contest Site
Competition: Blackstone - 502, 501
Event Manager: Grace Gwozdz

MEDICAL MATH
Briefing: Marlboro Room, **bring resumé**
Competition: Blackstone - 512A
Event Manager: Grace Gwozdz

MEDICAL TERMINOLOGY
Briefing: Marlboro Room
Competition: Blackstone - 533B
Event Manager: Brenda Carvalho
EARLY CHILDHOOD EDUCATION

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
- Black dress pants
- Black shoes, no heels
- White polo shirt, or official SkillsUSA polo shown
- NO school ID or name on clothing
- NO jeans or leggings
- NO nail polish, gels or tips
- NO sneakers
- NO gum chewing
- NO cell phones allowed
- Nails short and clean
- NO heavy perfume/makeup/cologne

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- Provided by the Technical Committee:
  - Massachusetts Guidelines for Preschool Learning Experiences (the Green Book)
  - Social and Emotional Learning and Approaches to Play and Learning

Students will bring supplies needed to create their lessons, such items as:
- Crayons
- Markers
- Glue sticks
- Glue gun
- Elmer’s glue
- Scissors
- Felt
- Pipe cleaners
- Construction paper
- Storybooks about how plants grow, primary and secondary colors, the five senses, and the life cycle of a butterfly.
- Misc. any other arts and craft supplies that they might want to use in creating your lesson.
- No patterns, or templates are to be used. Just your own creativity.

State Skills:
To evaluate a contestant’s ability to plan and present age appropriate activities for pre-school age children relating to a specific theme and demonstrate a general knowledge of quality early childhood education.

Major Project/Activity: (650 points)
Science: This lesson is designed for preschooler’s ages 4 to 5 years old.
A felt board will be provided for the contestants on competition day, if they wish to use it.
The contestant will write a lesson plan for this lesson.
- Contestants will choose from one of these Science lessons to present to a class of preschoolers.
  - a. How plants grow
  - b. Primary and Secondary Colors
  - c. The five senses
  - d. Life cycle of a butterfly

Lesson Plan: (250 points)
The lesson plan should be detailed so that any person can easily read it and present the lesson.
All props for this lesson must be made at the competition. Nothing is to be pre-made.

Presentation:
The presentation must be 5 to 7 minutes before a panel of 3 judges.
(If under 5 minutes or over 7 minutes there is a penalty of -50 points.)
The Massachusetts Guidelines (The Green Book) will be provided to the contestants on competition day. Also the Social and Emotional Learning, and Approaches to Play and Learning will be provided to the contestants on competition day.

Early Childhood Education Rating Sheet:

Presentation of Lesson: 650 Points
- Personal Qualities Skills 250 pts.
- Presentation Technique Skills 200 pts.
- Originality/Creativity Skills 100 pts.
- Lesson Material 100 pts.

Presentation’s Lesson Plan: 250 Points
- Printing, Spelling, Neatness 50 pts.
- Age Appropriate Teaching Methods 50 pts.
- Age Appropriate Goals 50 pts.
- Procedure and use of Materials Support Goals and Content Area 50 pts.
- Five Areas of Lesson Plan Completed Correctly 50 pts.

Quiz: 100 Points
- Time Penalty: over or under minus 50 pts.
- Resume: not turned in minus 50 pts.
- Clothing penalty: minus 50 pts.
EARLY CHILDHOOD EDUCATION LESSON PLAN OUTLINE

Contestant #___________________________

1. Goal: (Be Specific) __________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

2. Objectives: (Be Specific) _______________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

3. Materials needed: __________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

4. Introduction/Motivation: _______________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

5. Presentation: Explain it in specific details so that another person would be able to do this lesson following your lesson plan. __________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

6. Closure/Review: __________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
MASSACHUSETTS GUIDELINES FOR PRESCHOOL LEARNING EXPERIENCES (THE GREEN BOOK)

Please list 5-7 standards:

_______________________________________________________________________________

_______________________________________________________________________________

_______________________________________________________________________________

_______________________________________________________________________________

_______________________________________________________________________________

SOCIAL AND EMOTIONAL LEARNING, AND APPROACHES TO PLAY AND LEARNING

Please list 3-5 standards:

_______________________________________________________________________________

_______________________________________________________________________________

_______________________________________________________________________________

_______________________________________________________________________________

_______________________________________________________________________________

Page 76 • 2019 State Technical Standards
HEALTH OCCUPATIONS
PROFESSIONAL PORTFOLIO CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire.
Nails short and clean    NO nail polish, gels or tips    NO gum chewing
NO school ID or name on clothing  NO heavy perfume/makeup/cologne    NO cell phones allowed
NO jewelry except watch with second hand
Refer to the 2019-2020 National Technical Standards for updates on requirements to the portfolio

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty

State Skills:
To recognize students for their successful development of a professional portfolio and evaluate the ability of an individual to present himself/herself to an employer using effective communication skills.

The contest will consist of two parts: (1) A notebook and (2) Live presentation by the contestant.

Notebook: Each contestant is required to submit an official SkillsUSA three-ring, 1-inch loose-leaf binder available from the current SkillsUSA Supply service Catalog. Photographs, news articles, illustrations and other informative material may be included to support and enhance written evidence of the contestant’s participation in activities as described in the notebook. Pages must be limited to 25 (50 surfaces), divider pages do not count toward maximum numbers of pages allowed in the Notebook setup section.

Notebook: must include the following, presented in progressive order, and typed (hand written pages are not acceptable).
General order of setup of Notebook:
   a. Title Page—include name of contestant, name of school, grade, training program, and a picture of the contestant.
   b. Table of contents with page numbers.
   c. Components of an Employment Portfolio: organizations, professional appearance, (No handwritten or colored pages), White or beige pages.

NOTEBOOK CONTENTS:
Section I: Resume and Career Objectives: 40pts.
Prepare a current resume. Students should include a written statement describing his/her career objectives, plans to achieve that objective, and competencies that have been met. (See PDP, Level 3.1 for assistance in developing your resume).

Section II: References: 40pts
Letters of reference from teachers, mentor, supervisors, employers, others who verify student’s skill ability (Limit: three references).

Section III: Awards and Recognitions: 40pts.
Include copies of certificates, documentation of leadership activities, news articles and supportive material to serve as proof of your achievements. Reflect the highest level of achievement.

Section IV: Work Sample Documentations: 200pts.
Summary of work site experiences pertaining to health occupations. Students should distinguish project documentation that is a result of school-based learning and/or work-based learning. Can be supported with photographs that are reflective of the learning.
Section V: Community Service: 40pts.
List of activities conducted that provided a benefit to the community. Concentration should be on excellence and professionalism in the area of service.
   A. School based
   B. In the community outside of school

Section VI: Membership and Affiliations: 40pts.
List of organizations and community groups in which the student is actively involved.

Total of 400pts for Notebook

Live Presentation:
   a. Oral Presentation: students should be prepared to make a 5-7 minute presentation of their portfolio to the judges. Oral Presentation 200pts.
   b. Visual Presentations must be brought to contest on a flash drive. Contestants are to use the equipment supplied by the host school. Visual Presentation 100pts.
   c. Responses to questions: Contestants should anticipate questions from the judges. Responses 50pts.

Total of 400pts for Presentation

Judging: Notebooks will be submitted on Thursday night at the contestant briefing. (Late notebooks may be accepted by Event Manager but will be subject to point deductions). The notebooks will be returned to the contestant at the end of the live presentation. Contestants will be required to report to the contest area at a designated time with all equipment for their presentation. Students will be required to stay until dismissed by the judges.
Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire. NO cell phones allowed.

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- Supplied by the technical committee: test problems with instructions, scratch paper and pencils
- Supplied by the contestant: basic hand-held calculator (no graphing or scientific calculator [with fraction keys] will be permitted)
  
  Bring the resume to the orientation meeting on Thursday night after opening ceremonies

Purpose: To evaluate the students’ ability to understand and solve mathematical problems commonly used in the various health care settings.

State Skills:
1. The test questions will be taken from problems encountered in the medical field and are selected from the area that might be used in the real world applications. Contestants will demonstrate their ability to solve math problems that deal with the following area:
   a. Measurements including vital signs, temperature conversions, and height and weight.
   b. Metric and household measurements
   c. Conversions
   d. Ratio and proportion
   e. Percentage
   f. Intake and output
   g. Roman numerals
   h. Dosage calculations

2. The test will comprise 50 problems that will allow contestants the opportunity to utilize their problem-solving skills as well as their mathematical ability.

3. The contestants will have two hours to complete the test. No bonus points will be given for early completion of the test, and no contest will be allowed to go in or out of the testing site during the testing. Suggested references: “Standardized Medical Abbreviations”

4. Prepare a current resumé. Students should include a written statement describing his/her career objectives, plans to achieve that objective, and competencies that have been met. (See page 6 for assistance in developing your resumé).
MEDICAL TERMINOLOGY CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire.
Nails short and clean
NO nail polish, gels or tips
NO gum chewing
NO school ID or name on clothing
NO heavy perfume/makeup/cologne
NO cell phones allowed
NO jewelry except watch with second hand

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
2 No. 2 pencils

State Skills:
To evaluate the knowledge of medical terminology and abbreviations of an individual preparing for employment in the health occupation field and to recognize outstanding students for excellence and professionalism.

Core standards from the medical terminology portion of the National Health Care Core Skills Standards Project make up the category from which questions are developed for the Medical Terminology contest.

Skills Performance:
Contestants will demonstrate knowledge of medical word roots, prefixes, suffixes, and medical abbreviations by successfully answering the questions.
SERIES DIRECTOR:
KEN GIACOMUZZI

CONTACT INFORMATION:
139 EAST MAIN STREET • MILFORD, MA 01757
(774) 570-8650
kennyg4886@gmail.com

SERIES DIRECTOR ASSISTANT:
JAMES WOODWARD

CONTACT INFORMATION:
BLACKSTONE VALLEY TECHNICAL HIGH SCHOOL
65 PLEASANT STREET • UPTON, MA 01568
(508) 529-7758
jwoodwar@valleytech.k12.ma.us

EVENTS:

AUTOMATED MANUFACTURING TECHNOLOGY
Briefing: Northboro Room
Competition: Blackstone - Facilities Garage—180D
Event Manager: Mark O’Brien

CNC MILLING
Briefing: Northboro Room
Competition: Blackstone - 131D
Event Manager: William Weir

CNC TECHNICIAN
Briefing: Northboro Room
Competition: Blackstone - Machine Shop—M130D
Event Manager: Michael Pasciuto

CNC TURNING
Briefing: Northboro Room
Competition: Blackstone - 139D
Event Manager: Scott Brooks

SHEET METAL
Briefing: Northboro Room
Competition: Blackstone - Metals Shop—150D
Event Manager: Kendall Sprague

WELDING
Briefing: Northboro Room
Competition: Blackstone - Metals Shop—150D
Event Manager: Scott Houle
AUTOMATED MANUFACTURING CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
- Blue work pants, as shown
- Safety shoes
- Safety glasses with side shields or goggles
- SkillsUSA Massachusetts T-Shirt, provided
- NO jeans
- NO cell phones allowed
- Safety: avoid a safety violation or being removed from the contest
- NO loose/long hair (must be secured)
- NO loose clothing
- NO jewelry
- NO sneakers

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Provided by the Technical Committee:
- Part(s) Design
- Blank Diskettes or thumb drive
- Competition Notebook
- Pencils
- Material for Machining
- Machinist vise
- Hold-downs and clamps
- Tool holders
- End mills
- One Computer loaded with CAD software for CAD program
- One Computer loaded with software for CAM program
- This computer must have an open full-sized PCI slot and Windows 98 or higher operating system.
- This computer will be connected to the CNC machine.
- One 6” dial or digital vernier caliper
- One Calculator
- One pair of 2/4” or 1” parallels
- One soft-face hammer
- One 6” or 12” steel rule
- Licensed versions of the above CAD and CAM software
- One dial indicator, Dial indicator must have 3/8” or 1/2” holding shank to fit into tool holder supplied by the technical committee.

Purpose: To evaluate each contestant’s preparation for employment in automated manufacturing and the team approach to problem solving work environment. To recognize outstanding students for excellence and professionalism in the field of automated manufacturing technology.

State Skills:
1. Teams must be composed of three members. Teams will demonstrate their ability to perform, exhibit, and compile skills and knowledge necessary from the following list of competencies determined by the technical committee.

2. The teams will be presented with dimensioned drawing(s) of a part(s) to prototype.

3. Each team will be issued a notebook. This will be a three-ring binder. Included in the binder will be all the necessary information and forms to complete the project. These forms will not be highly specific but will coach the teams. All binders, forms and drawings must be turned in to the judges at the end of the competition.

4. The competencies required for contestants to successfully compete are as follows:
   a. Performing Mathematical and Measurement Calculations
AUTOMATED MANUFACTURING Continued

1. Measure work piece to the nearest .001 inch
2. Calculate CNC speed and feeds
3. Calculate stock utilization and setup
4. Calculate tolerances

b. Designing, Sketching, Planning Machine Work
   1. Transfer information from drawing to CAD drawing
   2. Create CAD file for manufacturing
   3. Begin manufacturing documentation process
   4. Process Plan
   5. Plot CAD file #1
   6. Export CAD file

c. Create Tool path (CAM file), CNC Code
   1. Create process plan (Job Plan)
   2. Read-in CAD export file
   3. Create tool path
   4. Verify tool path
   5. Create CNC Code
   6. Send CNC code to machine tool

d. Perform CNC Machining Functions
   1. Verify CNC file existence
   2. Verify tool path
   3. Setup part on mill
   4. Set all offsets and tooling
   5. Adjust to speeds and feeds as needed
   6. In-process quality assurance
   7. Perform tool changes
   8. Perform multiple machining operations in one setup
   9. Verify (TQM) process and part

e. Inspection of Part TQM process
   1. Verify part to standards
   2. Document process

Group Organizational Goal:
This is a group competition, and members may interact at will. The competition should run much like industry. The CAD operator will construct the part geometry, the CAM operator will generate the tool paths, and the CNC operator will do the setup and machine the part. When a team member has spare time, he or she will help others in the group.

One person should not dominate a team by doing the CAD drawing, the CAM tool path, and running the CNC machine while using the other members simply as support. The contest is designed to promote creativity in organization of production responsibility.

All group members are responsible for double-checking each other’s work and quality control.
Special Note: Clarification of Rules
The scope of the contest states that the equipment supplied by the contestant will be two separate computers, one with CAD on it and one with CAM on it. SkillsUSA Massachusetts has decided that the computers that will be used do not have to remove any software to compete but will only be allowed to use one software program on each computer. IE one will be using a version of CAD and one will be using a version of CAM. At no time will contestants be allowed to use the CAD component of the CAM software. The Drafting student’s ability to use his/her skills on CAD software is essential to the integrity of the contest and in the preparation of our students for the National level of competition. It is, however, important to allow the students the ability to create bounding boxes for the purpose of machinability only. This is an industry acceptable standard and will be put in place. This is the only CAD feature they will be allowed to use in their CAM software. Contestants will not be allowed to make any CAD Engineering changes to the parts in their CAM software. If you have any questions please contact the Series Director, using the contact information provided.

The Following observer rules apply to all contests in Metal Trades A.
Observers will be allowed to view the students during the competition from the designated area only. Any infraction will result in contestant disqualification.
Talking or gesturing by the observers may result in contestant disqualification.
Observers will not be permitted to communicate with contestants in the holding/assembly area.
Talking to judges will not be permitted.
All communications are to be directed to the series director only and only at the end of the contest.
Contestants are to stay until they are debriefed at the end. Any communication from observers will result in contestant disqualification.
No prints or information will be allowed to leave with the student participants/school personnel.
No videotaping of contests. (Still photography only)
REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty

- Blue work pants, as shown
- Safety shoes
- Safety glasses with side shields or goggles
- SkillsUSA Massachusetts T-Shirt, provided
- NO jeans
- NO cell phones allowed
- NO loose/long hair (must be secured)
- NO loose clothing
- NO jewelry

Safety: avoid a safety violation or being removed from the contest

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty

Provided by the Technical Committee:
- CNC Mill with proper holding devices
- Workbench
- Necessary hand tools and cutting tools
- Necessary information and furnishings for judges and technical committees

Provided by the Contestants:
- 0-1” micrometer
- 6 inch caliper (digital or vernier)
- Non-programmable calculator
- Pencils and paper
- Machinery’s Handbook (optional)
- Deburring tools (files, Emory cloth, etc.)

Purpose: To evaluate each contestant’s preparation for employment in Computer Numeric Control machining. To recognize outstanding students for excellence and professionalism in the CNC machining field.

Scope of Contest:
Each contestant will receive a dimensioned drawing and material to CNC-machine a part. Participants are expected to write a CNC program, set up the machine and tool offsets and machine a part without the use of CAD/CAM software. Only the part will be evaluated, not the CNC program. Participants are given 15 minutes to study the task and ask questions before beginning. The competition may run 6-8 hours, depending on the project design.

Competencies required are as follows:

1. Programming
   - a. Write and verify CNC program without the use of CAM software (competitor has the opportunity to correct any program errors on the machine.)
   - b. Display complete knowledge of DIN/ISO programming (G and M codes)
   - c. Apply the correct use of cutter compensation (G41/G42)
   - d. Adjust speeds and feeds as needed

2. Setup
   - a. Setup machine and establish a zero reference point for machining the part
   - b. Select and mount necessary tools from the provided set
   - c. Establish tool offsets and enter them into the CNC machine control
   - d. Enter any necessary tool corrections into the CNC machine control
3. Perform mathematical calculations
   a. Calculate CNC speeds and feeds
   b. Calculate programming coordinates from the drawing
   c. Calculate radius tangent points
4. Measuring
   a. Measure test part to the nearest 0.001”
5. Communication
   a. Read and interpret technical blue prints
   b. Understand all symbols on technical blue prints, such as geometric tolerances, surface-finish symbols, corner-break symbols, etc.

Test Project Scoring: The three evaluation criteria for the test part are:
1. Conformity to Print:
   a. Visual conformity and accuracy of part to drawing. (Look for shape and features of part)
   b. Edges broken
   c. Transition of surfaces
   d. Part is burr-free
   e. Damage to part (clamp marks, scratches)
2. Dimensions:
   This is an objective scoring. Scores will only be granted if dimension is in compliance with the print. The score for each dimension will either be full points or zero points.
3. Use of Material:
   Contestant will receive one piece of stock for the contest. Material may be Steel, Aluminum, Wax, or Delrin.

The Following observer rules apply to all contests in Metal Trades A.
Observers will be allowed to view the students during the competition from the designated area only. Any infraction will result in contestant disqualification.
Talking or gesturing by the observers may result in contestant disqualification.
Observers will not be permitted to communicate with contestants in the holding/assembly area.
Talking to judges will not be permitted.
All communications are to be directed to the series director only and only at the end of the contest.
Contestants are to stay until they are debriefed at the end. Any communication from observers will result in contestant disqualification.
No prints or information will be allowed to leave with the student participants/school personnel.
No videotaping of contests. (Still photography only)
CNC TECHNICIAN

COMPETITOR LUNCHES SPONSORED BY HAAS

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Blue work pants, as shown
Leather work boots
Safety glasses with side shields or goggles
SkillsUSA Massachusetts T-Shirt, provided
NO jeans
NO cell phones allowed
Safety: avoid a safety violation or being removed from the contest
NO loose/long hair (must be secured)
NO loose clothing
NO jewelry
NO sneakers

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Supplied by the Technical Committee:
- Haas Programmable Controller
- CNC Lathe & CNC Mill
  - All tooling for program execution on CNC Lathe and Mill
  - Flash Drive if needed
- Inspection equipment. (Inspection Station)
- Deburring and finishing tools (Finishing station)
Supplied by the Contestant:
- 2 pencils
- Scratch paper
- Machinist Handbook
- Trigonometry Book
- Calculator

State Skills:
The purpose of this contest is to evaluate each contestant’s preparation for employment in Computer Numeric Control Turning and Milling. In addition, recognize outstanding students for excellence and professionalism. This contest will assess the ability to write and execute CNC turning and milling programs, interpret prints (including GDT), and measure/gage parts. Participants will also demonstrate theoretical knowledge of CNC machine configuration, setup and operations.

Contestants will be judged on the following areas:
- MILLING: Programming using HAAS Simulators, Program execution on HAAS CNC Mill. (Parts are judged as a finished Product)
- TURNING: Programming and program execution on HAAS CNC Lathe (Parts are judged as a finished Product)
- CNC Theory
- G & M Codes
- Blueprint Reading
- Communications

Use of calculators, Machinery Handbook, Trig books are allowed at worksite. All miscellaneous worksheets, note cards, etc. that are not otherwise obtainable by all contestants are not allowed.

Contest site will provide all equipment and tooling for tasks required. Contestants will need to maintain a safe and professional working environment. Care and usage of tooling, inspection equipment, and overall workplace etiquette expected of a professional will be considered in final score.
CNC Technician Skills:

Work Station 1A: CNC Machining - This station will allow competitors to program a HAAS CNC Turning center from prints, load and set tools and execute their program.

Work Station 1B: CNC Machining - This station will allow competitors to program a HAAS CNC Milling Center from prints using a HAAS Simulator. Programs will then be loaded in to a HAAS CNC Milling Center to execute their program.

Work Station 2: CNC Machining - Setup procedures - This station will allow a competitor to review a print/program and pre-machined part. Competitor will properly mount the finished piece into the (HAAS) CNC Milling Center and locate a given datum point. No actual machining operations will take place at this station.

Workstation 3: Measuring and Gauging - This session is performance based; competitors will physically measure and record actual parts through instructions and print specifications.

Workstation 4: Print Reading and GDT - This station will allow competitors to interpret provided drawings and dimensioning/toleranceing.

These are subject to change slightly without losing main scope or ideas. There will be additional more timed workstations which will encompass simple tooling identification, program reading (identification of line by line code), and interviewing & employability assessments.

The Following observer rules apply to all contests in Metal Trades A.

Observers will be allowed to view the students during the competition from the designated area only.

Any infraction will result in contestant disqualification.

Talking or gesturing by the observers may result in contestant disqualification.

Observers will not be permitted to communicate with contestants in the holding/assembly area.

Talking to judges will not be permitted.

All communications are to be directed to the series director only and only at the end of the contest.

Contestants are to stay until they are debriefed at the end. Any communication from observers will result in contestant disqualification.

No prints or information will be allowed to leave with the student participants/school personnel.

No videotaping of contests. (Still photography only)
REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Blue work pants, as shown
SkillsUSA Massachusetts T-Shirt, provided
Safety shoes
Safety glasses with side shields or goggles
Safety: avoid a safety violation or being removed from the contest
NO jeans
NO cell phones allowed
NO loose/long hair (must be secured)
NO loose clothing
NO jewelry
NO sneakers

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Provided by the Technical Committee:
   CNC Lathe with proper holding devices
   Workbench Necessary hand tools and cutting tools
   Necessary information and furnishings for judges and technical committees
Provided by the Contestants:
   0-1” micrometer
   6 inch caliper (digital or vernier)
   Non-programmable calculator
   Pencils and paper
   Machinery’s Handbook (optional)
   Deburring tools (files, Emory cloth, etc.)

Purpose: To evaluate each contestant’s preparation for employment in Computer Numeric Control turning. To recognize outstanding students for excellence and professionalism in the CNC turning field.

State Skills:
Each contestant will receive a dimensioned drawing and material to CNC-turn a part. Participants are expected to write a CNC program, set up the machine and tool offsets and turn a part without the use of CAD/CAM software. Only the part will be evaluated, not the CNC program. Participants are given 15 minutes to study the task and ask questions before beginning. The competition may run 6-8 hours, depending on the project design.

Competencies required are as follows:
Programming
a. Write and verify CNC program without the use of CAM software (competitor has the opportunity to correct any program errors on the machine.)
b. Display complete knowledge of DIN/ISO programming (G and M codes)
c. Apply the correct use of cutter compensation (G41/G42)
d. Adjust speeds and feeds as needed
Setup
a. Setup machine and establish a zero reference point for machining the part
b. Select and mount necessary tools from the provided set
c. Establish tool offsets and enter them into the CNC machine control
d. Enter any necessary tool corrections into the CNC machine control
Perform mathematical calculations
   a. Calculate CNC speeds and feeds
   b. Calculate programming coordinates from the drawing
   c. Calculate radius tangent points

Measuring
   a. Measure test part to the nearest 0.001”

Communication
   a. Read and interpret technical blue prints
   b. Understand all symbols on technical blue prints, such as geometric tolerances, surface-finish symbols, corner-break symbols, etc.

Test Project Scoring, the three evaluation criteria for the test part are:

Conformity to Print:
   a. Visual conformity and accuracy of part to drawing. (Look for shape and features of part)
   b. Edges broken
   c. Transition of surfaces
   d. Part is burr-free
   e. Damage to part (clamp marks, scratches)

Dimensions:
   This is an objective scoring. Scores will only be granted if dimension is in compliance with the print. The score for each dimension will either be full points or zero points.

Use of Material:
   Contestant will receive one piece of stock for the contest. Material may be Steel, Aluminum, Wax, or Delrin.

The Following observer rules apply to all contests in Metal Trades A.

Observers will be allowed to view the students during the competition from the designated area only. Any infraction will result in contestant disqualification.

Talking or gesturing by the observers may result in contestant disqualification.

Observers will not be permitted to communicate with contestants in the holding/assembly area. Talking to judges will not be permitted.

All communications are to be directed to the series director only and only at the end of the contest.

Contestants are to stay until they are debriefed at the end. Any communication from observers will result in contestant disqualification.

No prints or information will be allowed to leave with the student participants/school personnel.

No videotaping of contests. (Still photography only)
SHEET METAL CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty

Blue work pants, as shown
SkillsUSA Massachusetts T-Shirt, provided
Leather work boots
NO jeans
Safety glasses with side shields or goggles
NO cell phones allowed
Safety: avoid a safety violation or being removed from the contest
NO loose/long hair (must be secured)
NO loose clothing
NO jewelry
NO sneakers

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty

Safety glasses
Hammer (sheet metal tinner)
Straight shears
6” and 12” dividers
40ct. 1/8” dia. x 3/8” long stl. blind rivets
Center or prick punch
1/4” or 3/8” electric / battery drill
Two pencils and paper pad
20ct. #8 x 1/2” zip screws w/1/4” nut driver
One 11” C-clamp vise grip
8” offset or str. Hand seamer or 3” wide blade clamping Vise Grip

Tool box
12” or 24” Combination and framing square
8’ min. Tape measure and 48” steel rule
Pop rivet / blind rivet gun
Scratch gauges
Hand dolly
Two 1/8” or 9/64” drill bits
Permanent marker pen
Wooden or rubber mallet
Decimal Equivalent Chart

Calculator
Left and right aviation snips
Strapping tape rule
30ct. 1/8” dia. x 1/4” long stl. blind rivets
Scratch awl
Baldy Joe or use back end of vise grip
Flat blade screw driver
Steel protractor
Two 4” and one 7” or 8” straight jaw vise grips
One 3/8” drill bit to hand ream out 1/8” holes

State Skills:
Contestants in the Sheet Metal contest are tested on their ability to perform such jobs as connecting sheet metal pieces with Pittsburg seams and dovetails. Professional Sheet Metal workers judge contestants on the basis of use of hand tools, correctness of layout and shop safety procedures.

Blue Print Reading Test:
Contestants will be tested in their knowledge of blue print reading.

The Following observer rules apply to all contests in Metal Trades A.
Observers will be allowed to view the students during the competition from the designated area only.
Any infraction will result in contestant disqualification.
Talking or gesturing by the observers may result in contestant disqualification.
Observers will not be permitted to communicate with contestants in the holding/assembling area.
Talking to judges will not be permitted.
All communications are to be directed to the series director only and only at the end of the contest.
Contestants are to stay until they are debriefed at the end. Any communication from observers will result in contestant disqualification.
No prints or information will be allowed to leave with the student participants/school personnel.
No videotaping of contests. (Still photography only)
WELDING CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty

- Blue cotton work pants, as shown
- Leather work boots
- Safety glasses with side shields or goggles
- SkillsUSA Massachusetts T-Shirt, provided
- NO jeans
- NO cell phones allowed
- Head shield with filter plate lens
- Welding hat
- Gloves and leathers as needed (such as long sleeve welding jacket or shoulder sleeves with bib and apron)
- NO jeans
- NO cell phones allowed
- NO loose/long hair (must be secured)
- NO loose clothing
- NO jewelry
- NO sneakers
- NO wool or synthetic clothing
- NO cuffs on pants

NOTE: A WELDING OPERATOR MUST WEAR PROTECTIVE CLOTHING AND BE SAFETY CONSCIOUS WHILE WELDING

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty

Supplied by the Technical Committee:

A. The Technical Committee WILL BE PROVIDING ALL MATERIAL NECESSARY.
B. All the necessary welding equipment to complete the projects
C. Instructions, blueprints and any other miscellaneous information required.
D. Aluminum plate will be supplied for the Aluminum weld test

The contestants will NOT have to bring a helmet AND there will NOT be an advanced look at the print for the competition

Supplied by the Contestant: EACH CONTESTANT SHOULD HAVE THEIR OWN TOOL BOX.

- Combination square
- Welding helmet w/ #10 min. shaded lens
- Chipping hammer with a wire brush attached
- GTAW and GMAW style welding gloves
- Half round metal file with a handle
- Assorted hand picks and cold chisels (deslagging)
- Number stamp set
- 6’ Tape measure (minimum)
- Hack saw with extra blades
- Stainless Steel wire brush
- Spark lighter
- Vise grips
- Safety glasses
- Carbon Steel wire brush
- Ball peen hammer
- Soap stone

State Skills:
On contest day each competitor receives the contest drawings and a set of welding procedure specifications. All drawings, welding symbols, and welding terms conform to the latest edition of the American Welding Society standards. The contestant will be tested on various aspects of welding:

1. Contestants will work on a steel project, making welds in various positions utilizing: gas metal arc welding (GMAW) (both mild steel & SS filler wire processes), shielded metal arc welding (SMAW), Flux Core Arc Welding (FCAW), and gas tungsten arc welding (GTAW).
2. Contestants will weld an aluminum project. Welds are made in various positions using a variety of filler metals.

The Following observer rules apply to all contests in Metal Trades A.

Observers will be allowed to view the students during the competition from the designated area only. Any infraction will result in contestant disqualification. Talking or gesturing by the observers may result in contestant disqualification.

Observers will not be permitted to communicate with contestants in the holding/assembly area. Talking to judges will not be permitted. All communications are to be directed to the series director only and only at the end of the contest. Contestants are to stay until they are debriefed at the end. Any communication from observers will result in contestant disqualification. No prints or information will be allowed to leave with the student participants/school personnel. No videotaping of contests. (Still photography only)
SERIES DIRECTOR:
CORY RUGG

CONTACT INFORMATION:
PATHFINDER RTHS
240 SYKES STREET
PALMER, MA 01069
(413) 283-9701
crugg@pathfindertech.org

EVENTS:

ENGINEERING TECHNOLOGY
Briefing: Westboro Room
Employability Testing: At Contest Site
Competition: Blackstone - 620D, Holding Room 640B
Event Manager: Megan Abella-Bowen

MECHATRONICS
Briefing: Westboro Room
Competition: Blackstone - 221C
Event Manager: David Kempski

WELDING SCULPTURE
Briefing: Westboro Room
Competition: Blackstone - 202B
Event Manager: James Tamulen
ENGINEERING TECHNOLOGY

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire. NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
SkillsUSA will provide:
- a space for the live model no bigger than 10’ x 12’
- a space for the storyboard
- one standard 120 volt electrical outlet
- one standard 8’ conference table

Supplied by the contestant team:
- live model cannot be hazardous in any way
- if the live model is not conducive to being presented in an indoor facility, notify headquarters in advance to make arrangements
- live models must be transported and set-up in the contest area by the contestant team. No help will be provided by SkillsUSA

NO cell phones allowed

Purpose:
To recognize an outstanding engineering innovation project which has been developed by a three-member team of engineering students. The student team will present their innovative idea along with a display and live model.

State Skills:
A team consisting of 3 students, all enrolled in the same educational institution during the current year. Students may be members of only one team per contest year. The project must be designed and constructed by students who are (or were enrolled immediately preceding the NLSC) enrolled in an engineering program (see definition in the eligibility section). Each team will have one storyboard explaining the new innovation they collaboratively worked on. Each storyboard may be smaller than, but may not exceed a maximum of 4’ x 4’. The live model must be an accurate reflection of what is being claimed in the oral presentation. Importance is placed on the oral presentation that lasts no longer than ten minutes. Following the oral presentation, there will be a possible ten-minute question and answer session by the judging panel to clarify any questions that arise during the presentation. High school and college/post-secondary educational institutions are eligible to participate. Leadership from the team’s career and technical instructor, academic teachers and business/industry is highly encouraged. The panel of judges will consist of engineers, engineering educators and members from business and industry.

Judging Criteria: Each engineering presentation will be judged according to its own merits and compliance with the listed criteria. Participants should read the guidelines carefully and make sure the project presentation covers all the criteria.

Live model – The live model is a working model that demonstrates the results of the teams’ research and how the team has put their research into action (i.e. a newly designed air-intake system for a high mileage vehicle). The live model must accurately reflect the engineering design accomplishment referred to in the presentation. If judges wish, they will be able to inspect the model at the conclusion of the presentation.

Presentation – Students should demonstrate appropriate mastery of the engineering project. Each student should take an equitable role during the allotted time. The presentation given by the entire group should reflect excellent presentation skills, clear communication and explanation of the technical process related to the engineering innovation and design project. The use of technology presentation equipment is highly encouraged to convey a clear presentation.
Integration of business and industry - The project must demonstrate evidence of the integration and involvement of business and industry related to the engineering field. This involvement might take many forms (i.e., technical assistance), but must be evident during the presentation process. The team must have engaged business and industry in at least one phase of the project – research, planning, and/or construction of the model or assistance in a quality presentation.

Storyboard presentation model – The storyboard will chronicle the history of the innovation from idea to reality. The storyboard will be rated on gaining attention, explaining the engineering process involved, quality, imagination and overall effectiveness as a history of the project.

Overall effect – The entire presentation and supplied materials (i.e., storyboard, live model, etc) were projected in a businesslike and professional manner. The live model and presentation materials were well organized. The students’ display of knowledge and clear connection to engineering business/industry has been firmly established.

Observer Rule: No observers will be permitted during the judging phase of the team presentation.
Live models and presentation displays may be viewed on the day of the competition. All teams will be invited to repeat the team presentation to the public following the judging phase.

The Following observer rules apply to all contests in Metal Trades B.
Observers will be allowed to view the students during the competition from the designated area only. Any infraction will result in contestant disqualification.
Talking or gesturing by the observers may result in contestant disqualification.
Observers will not be permitted to communicate with contestants in the holding/assembly area.
Talking to judges will not be permitted.
All communications are to be directed to the series director only and only at the end of the contest.
Contestants are to stay until they are debriefed at the end. Any communication from observers will result in contestant disqualification.
No prints or information will be allowed to leave with the student participants/school personnel.
No videotaping of contests. (Still photography only)
MECHATRONICS CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire. NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Mechatronics Technical Committee provides:
- Laptops with FluidSIM software
- Terminal Strip
- Status Box
- Pneumatic tubing and cutter
- Mini Compressor
- Integration cables and patch cords (for components)
- Mechanical, fluid power, electronic components
- 24 VDC 2 AMP Power supply (for components)
- 2 Chairs at each workstation
- 110VAC at each workstation
- SkillsUSA and Festo partners will be providing MecLab kits for the state competition
- 3’ x 6’ workstations

Teams provide:
- Pen/pencil
- Safety glasses
- Small Screw Drivers (Phillips and Regular)
- Multimeter
- Wire Cutter/Stripper
- Allen Wrench Set (Inch and Metric)
- Open-Ended Wrenches (Inch and Metric)

Scope of Contest:
To better reflect the emerging industrial technology called “Mechatronics”, this year’s competition will include mechanical, fluid power, electronic and control components. Teams of 2 students will be required to assemble, integrate and program these components to create an automated system capable of completing a specific task. Programming can be done with committee-provided FluidSIM software. Scores will be based on task completion, accuracy and efficiency.

Control System Notes:
This year the use of a PLC will not be allowed for secondary (high school) students in an effort to provide a fair and equitable contest for all participants. In the past there has been some concern regarding the use of PLC’s for the Mechatronics competition. After a review of the national contest and the wording of the state contest, it has been decided that the use of PLC’s should only be for students competing at the post-secondary level. Please refer to the 2019-2020 SkillsUSA Technical Standards for additional information.

The Following observer rules apply to all contests in Metal Trades B.
Observers will be allowed to view the students during the competition from the designated area only.
Any infraction will result in contestant disqualification. Talking or gesturing by the observers may result in contestant disqualification.
Observers will not be permitted to communicate with contestants in the holding/assembly area.
Talking to judges will not be permitted. All communications are to be directed to the series director only and only at the end of the contest.
Contestants are to stay until they are debriefed at the end. Any communication from observers will result in contestant disqualification.
No prints or information will be allowed to leave with the student participants/school personnel.
No videotaping of contests. (Still photography only)
WELDING SCULPTURE CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire. NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Supplied by the Technical Committee: One 4-foot table
Supplied by the Contestant: Student designed and produced sculpture, Professional-detailed portfolio of the sculpture’s creation

State Skills:
The contest is designed to assess the ability of the competitor to create a concept and produce a sculpture of that design, as well as give a presentation regarding all aspects of his or her creation of the design.
Part 1. Evaluation of the Sculpture
Part 2. Oral presentation and questions and answers session. All contestants will be asked the same questions, determined by the judges, before the start of the contest

Contest Guidelines:
Sculpture Design and Workmanship:
Materials used must be ferrous or non-ferrous metals. The sculpture must be an original and creative work of the student. Sculptures may be welded, brazed, or soldered, depending on the material used. Projects are to be left unpainted, including primers and other opaque coatings. All copyright laws must be followed in the creation of the design. Sculptures may be delivered to the contest site on Thursday, April 25th, 2019 between the hours of 12:00 noon and 3:00 p.m. The sculpture must be one continual piece, not multiple pieces unconnected. The sculpture cannot exceed the maximum size of 18” tall x 12” wide x 18” long and cannot exceed a weight of 250 lbs.

Portfolio:
A portfolio must be placed with the sculpture prior to judging. It must be tabbed and must contain pictures and supporting evidence (i.e. receipts). It must include a description of the concept development and manufacture of the project and processes used to develop the sculpture. A hard copy portfolio must be submitted if part and presentation is to be considered for judging. The first page of the portfolio must include a letter certifying that the sculpture was designed and constructed by the student. The letter must contain an itemized list of all expenses. The letter must identify the school, city, state and local advisor. The letter must identify the student to be interviewed, division (high school or post-secondary), and the letter must be signed by the instructor and vocational-director or principal.

NOTE: A digital copy of the portfolio must be submitted to: crugg@pathfindertech.org NO LATER THAN April 22, 2019 at 5:00 p.m. All portfolio documentation must be submitted as .pdf to eliminate software issues.

Presentation:
The student will participate in a 4 to 5 minute presentation. Elements of the presentation should include:
1. General information (Individual’s name, school, and title of project).
2. Discuss elements of the portfolio (concept, material, design and manufacture).
3. Inspiration for project design.
4. Details of processes and workmanship in the sculpture.
Question and Answer Session:
After each presentation the individual will be asked questions from the judges. Questions will be about the sculpture, presentation, materials, processes and workmanship.

The Following observer rules apply to all contests in Metal Trades B.
Observers will be allowed to view the students during the competition from the designated area only. Any infraction will result in contestant disqualification.
Talking or gesturing by the observers may result in contestant disqualification.
Observers will not be permitted to communicate with contestants in the holding/assembly area.
Talking to judges will not be permitted.
All communications are to be directed to the series director only and only at the end of the contest.
Contestants are to stay until they are debriefed at the end. Any communication from observers will result in contestant disqualification.
No prints or information will be allowed to leave with the student participants/school personnel.
No videotaping of contests. (Still photography only)
OCCUPATIONAL SUPPORT TRADES A

SERIES DIRECTOR:
MARK HAMILTON

CONTACT INFORMATION:
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750 WINTER STREET
FRAMINGHAM, MA
WORK (508) 416-2321
CELL (617) 803-6870
mhamilton@jpkeefehs.org

EVENTS:

PRINCIPLES OF ENGINEERING TECHNOLOGY
Briefing: Boxboro Room
Employability Testing: At Contest Site
Competition: Blackstone - 308B, 309B
Event Manager: Jessica Perry

TECHNICAL COMPUTER APPLICATIONS
Briefing: Boxboro Room
Competition: Blackstone - Business Tech Shop—401B
Event Manager: James Sullivan

WEB DESIGN
Briefing: Boxboro Room
Competition: Blackstone - Computer Labs—510, 511
Event Manager: Steve King

SkillsUSA Official Attire • See Page 7 for Options
PRINCIPLES OF ENGINEERING TECHNOLOGY CONTEST

REQUIREMENTS AND SCOPE OF CONTEST
Please refer to the 2019-2020 SkillsUSA Technical Standards for additional information

EMPLOYABILITY SKILLS TESTING:
Employability Skills Testing takes place at the contest site.

2019-2020 SkillsUSA Championships Technical Standards available on-line to all professional members
TECHNICAL COMPUTER APPLICATIONS CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire. NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
2 #2 Pencils with erasers
1 Tablet of paper

Hardware:
IBM PC’s

Software:
Office Products including: Word, Excel, PowerPoint, Access and Windows 10. The host site has Office 2016 and that will be the preferred product. If you would like to use another version please contact the series director ASAP.

State Skills:
The contest will test the student skills through written exam, which will covers the installation and operation of the software, hardware and cabling plus general computer support knowledge. Topics also include information as related to the Internet, networking and data sharing. A practical exam will test the students skills using Microsoft Office 2016 or later, specifically Word, Excel, and PowerPoint.
WEB DESIGN CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire.  NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Pencil and paper for storyboard/wireframe

Hardware Requirements: The team must provide all the computers, and interconnecting equipment.
Software Requirements: Any software can be used as long as it is properly licensed.

Purpose:
To evaluate each member teams preparation for employment and to recognize outstanding students for excellence and professionalism in the field of web development.

State Skills:
The contest will require each team to build a web-site.

Hands-on Evaluation:
Each team will be required to build a web-site for a non-profit organization. Each team will be given a flash drive with graphics, which can be used. They may be altered as the team sees fit. Teams will be required to submit a wireframe/storyboard to show their planning process. There will be no server side scripting or web server requirements. All projects will be submitted to the judges via a memory stick. Any previously developed documents or graphics that are used by the team will disqualify that team.
OCCUPATIONAL SUPPORT TRADES B

SERIES DIRECTOR:
KATIE CUNNINGHAM

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65 PLEASANT STREET
 UPTON, MA  01568
(508) 529-7758 EXT. 2012
kcunningham@valleytech.k12.ma.us

EVENTS:

COMPUTER PROGRAMMING
Briefing: Boxboro Room
Competition: Blackstone - Computer Lab—625D
Event Manager: TBA

INFORMATION TECHNOLOGY SERVICE
Briefing: Boxboro Room
Competition: Blackstone - IT Shop—011B
Event Manager: Scott Soucy

INTERNETWORKING
Briefing: Boxboro Room
Competition: Blackstone - IT Shop—010B, 011B
Event Manager: Steve Ricciardi

TELECOMMUNICATIONS CABLING
Briefing: Boxboro Room
Competition: Blackstone - Computer Lab
Event Manager: Walter Ramsey
INFORMATION TECHNOLOGY SERVICE CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
- Black dress pants
- Black shoes, no heels
- White polo shirt, or official SkillsUSA polo shown

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
1. Supplied by the technical committee:
   - All materials, schematics and equipment required for the contest. Internet whitepaper documents or Internet research documents are not permitted. If determined by the committee such documentation is required for the module, the technical committee will supply it.

2. Supplied by the contestant:
   a. Pencils
   b. Basic hand tools suited for accessibility to a device, such as screwdrivers, needle-nose pliers, etc.
   c. Anti-static wrist strap with alligator clip end. Straps must be in proper working order.
   d. Digital multi-meter
   e. Contestants may bring diagnostic software with proof of ownership such as original disk or original software license, proof of payment of shareware license fee, or proof of software released into public domain (freeware)
   f. Contestants may use standard technical data reference books such as those that include BIOS codes, HDD parameters, etc. Books normally used as a classroom text will not be permitted
   g. Contestants may use malware detection and removal software with proof of ownership, as described in Item E
   h. All competitors must create a one-page résumé, which will be submitted at the contest site the day of the actual contest

State Skills:
The purpose is to evaluate each contestant’s preparation for employment and to recognize outstanding students for excellence and professionalism in the field of information technology. The contest is defined by industry standards as determined from elements of the CompTIA A+ including elements of Network + and Security + guides. Certification objectives may be found at the following website: www.comptia.org. These are also free by request. Write to: CompTIA 3500 Lacey Road, Suite 100, Downers Grove, IL 60515; 630-678-8300.

Skill Performance:
This portion of the contest will be a series of modules through which each contestant will rotate on a fixed time schedule to troubleshoot end user computing issues. Adaptive research is not in the current scope of the contest.

Contest Guidelines:
1. The contests will have several hands-on skill scenarios that demonstrate one’s entry-level employment skills selected from the list of competencies as determined by the SkillsUSA technical committee. Scenarios may include but are not limited to the following:
   a. Diagnose and service client issues with their relation to server or network interaction
   b. Diagnose and resolve operating system and startup problems
   c. Demonstrate ability to use utility software, drives and other peripherals
2. The software problems will relate to Windows operating systems, powershell and command-line skills.
3. Contestants will be awarded points based on their ability to solve problems or complete tasks within the allotted time. Partial points may be awarded for solving partial problems.
4. Competence is determined when the contestant acquires 60 percent of the available points.
5. Contestants will be provided, as required, manufacturers’ documentation of the devices to be installed and/or serviced.
6. Winners will be determined on the basis of their total scores.
7. Specific penalties will be assessed for the failure to properly use anti-static straps at all times when in contact with the contest equipment. Penalties will be assessed at 5 points per occurrence, and notice of infractions will be communicated to the contestant when they occur.
8. Penalties will be assessed for failure to follow a judge’s instruction that results in damage or loss of equipment or when improper handling is determined. Penalty may be assessed up to 10 points per infraction.
COMPUTER PROGRAMMING
CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Black dress pants
Black shoes, no heels
White polo shirt, or official SkillsUSA polo shown

NO jeans or leggings
NO sneakers
NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
All equipment is to be supplied by the contestant

Recommended that students download the free copy of Visual Studio 2017 Download or newer version and/or Microsoft C Sharp to prepare for the contest. Contest can be presented in either software application.
Flash drives will be provided to store the completed program, which will be left with the judges
The students are required to have Visual Studio 2017 Community Edition https://www.visualstudio.com/downloads/
One reference manual

Purpose:
To evaluate the contestants knowledge and understanding of computer programming and to evaluate the students preparation for employment in the software industry.

State Skills:
Contestants will build a business application in Windows Desktop application in C# or Visual Basic. Skills include concise well documented code, good User Experience and proper use of coding conventions, exception handling and a good general knowledge of application design.
INTERNETWORKING
CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Black dress pants  NO jeans or leggings
Black shoes, no heels  NO sneakers
White polo shirt, or official SkillsUSA polo shown  NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Pencil and paper (for notes)

Equipment Provided for Contest:
Cisco Routers  Cisco Switch  All Cat 5e Cables
All V.35 Cable Used to Interconnect Network Equipment  Computers  Console Cables for Network Equipment

Purpose: To evaluate each contestant’s preparation for employment and to recognize outstanding students for excellence and professionalism in the field of internetworking.

Written Evaluation:
The purpose of the written portion, of the contest, is to test a student’s complete knowledge of Internetworking. Questions from the written evaluation will be taken from the following general Internetworking topic areas:
OSI model and industry standards  Network topologies  IP addressing, including subnet masks
Basic Network Design  Beginning router configurations  Routed and routing protocols
Advanced router configurations  LAN switching theory and VLANs  Advanced LAN and LAN switched design
WAN theory and design  WAN technology, PPP, Frame, Relay, ISDN  Network troubleshooting

Hands-on Evaluation:
The purpose of the hands-on component of the contest will be to test a student’s ability to design, install, and maintain Internetworks. Given a set of networking equipment (cable, switch, routers, etc.), the students must, in a finite amount of time, install network equipment and configure.

This would be similar to doing an installation at a trade show. The vision and context is that client companies would request a demonstration booth which runs a particular Internet application – and students, given equipment and tools, would provide the appropriate connectivity for the application to run successfully.
TELECOMMUNICATIONS CABLEING CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
- Black dress pants
- Black shoes, no heels
- White polo shirt, or official SkillsUSA polo shown

NO jeans or leggings
NO sneakers
NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
NOTE: IF THE CONTESTANT DOES NOT HAVE TOOLS THEY WILL BE DISQUALIFIED. NO TOOLS WILL BE PROVIDED AT CONTEST SITE

Supplied by the technical committee:
- Mock wall, Cable Ladder, Equipment Racks, Racks, Cable, Patch Panels, Telecommunications Outlets, Termination Blocks and Modular Plugs
- Other Various Connectors
- Fiber Optics Connectors

Supplied by contestant:
- Personal eye protection and Hard Hat
- Striping Tools
- 8 pin modular plug crimping tool
- Cable prep tool for F-style compression connector using RG 6 Cable
- F-style coax compression tool
- Compression tool to do BNC and RCA connectors
- Electrician's scissors
- Probe-pics
- Volt ohmmeter (needed to test continuity), 4 pair tester and Coax tester or combo tester
- Electrical tape
- Cable tester
- Fish tape
- Other cable/wire preparation and installation/termination tools
- Cable labeling device
- Tone Generator and probe
- 6 inch tie wraps

State Skills:
Knowledge Performance
The purpose is to evaluate each contestants preparation for employment, to recognize outstanding students for excellence, and professionalism in the field of Information technology. The contest includes a written knowledge exam to assess knowledge of structured cabling. Questions from the written evaluation will be taken from the following general telecommunications cabling topic areas and are verbalized in the attached competencies: cable pulling, copper media (UTP cabling), grounding and bonding, horizontal cabling, installation of support structures, plans (blueprint and drawing), safety practices, splicing, standards and codes, telecommunications cabling systems, testing UTP cabling, transmission theory and troubleshooting.
Skill Performance:
The purpose of the hands-on component of the contest will be to evaluate the ability to install, terminate and manage telecommunications cabling.

Contest Guidelines:
1. An installation will be tested to industry TIA/EIA standard requirements.
2. The cabling project must be completed within the given time and certified for use.
3. Equipment and tools needed to install the appropriate connectivity for the project will be provided by the contestant.
4. Skills that are to be evaluated are outlined in the competencies provided by the contest technical committee. Standards are congruent with those established by the ETA Competency Requirements for Certified Data Cabling Installers.
5. Contestants should have a 10-hour OSHA Card.

For students interested in voice and data network cabling and installation, this competition tests to worldwide industry standards for data and voice connections, physical and logical networks and signal transmission. Contestants demonstrate skills in reading network design documentation, parts list set-up and purchase, pulling and mounting cable, choosing wiring closets, patch panel installation and termination, installing jacks and cable testing. Both CAT 5/6e and fiber optics cable connector are presented.

The contest stresses safety and working effectively in group environments as well as customer service skills. Student will build:

EIA/TIA Color Wire Standard for T568B or T568A will not be provided to contestants or used by the contestant when building the describe cables.

Cables to be terminated and tested:
1. Cat6 cable from bottom of wall (jack plate) up and over head to punch-down panel to the designated terminal.
2. Coaxial cable crimped at both ends one end screwed onto jack plate at bottom of wall, the other end will be left hanging next to punch-down panel run with the Cat6 cable.
3. A Cat5e cable terminated to the 66 block on the left run up the outside wall to the wire trough hanging from the ceiling and across to the punch-down panel to the designated terminal.
4. A 25 pair cable terminated at 110 blocks on right side of wall run into wall and left hanging. This is for demonstrating knowledge of color code termination only.
5. We will have a selection of fiber optic cables with various connectors on them that the contestant must write down and identify the different terminals.
6. Contestant will assemble two cables on a bench and demonstrating knowledge of color code termination only.
SERVICE OCCUPATIONS A

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HEATHER K. McCALL

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EVENTS:

COMMERCIAL BAKING
Briefing: Seminar Room
Competition: Blackstone - Baking Kitchen—143D, 019D
Event Manager: TBA

CULINARY ARTS
Briefing: Seminar Room
Competition: Blackstone - Culinary Kitchen—140D, 019D
Event Manager: Richard McKinney

RESTAURANT SERVICE
Briefing: Seminar Room
Competition: Blackstone - 3 Seasons Dining Room 142D, 019D
Event Manager: Suzanne Bagnera
COMMERCIAL BAKING
CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Baker/Chef uniform without school name
White chef’s scarf (Optional)
Pen, Pencil, Black Sharpie
Non-Slip Black Work shoes
White chef’s hat, (paper or cloth)
Apron (white)
4 side towels,
Pocket Notebook
No Sneakers allowed
No cell phones allowed
Hair net
2 cleaning rags
No nail polish/No artificial nails
No jewelry

CONTESTANTS WILL NOT BE ALLOWED IN THE CONTEST AREA WITHOUT CORRECT SHOES.
EACH CONTESTANT WILL BE GRADED ON DRESS AND SANITARY WORK HABITS.

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty

1 - Hand rolling pin or
2 - Muffin tins
3 - 9” Pie tins (no deep dish)
1 - Hand whip
1 - Rubber spatula
1 - Glaze brush
1 - Wooden spoon
1 - Pair of scissors
1 - Timer
1 - set measuring spoons
4 - S/S side bowls (1 - 8 qt. capacity, 3 - 3/4 to 1 qt. capacity)
1 - Grease brush
1 - Pastry wheel (straight or fluted)
1 - Bench brush
1 - Plastic scraper
1 - Dough thermometer
1 - Bench canvas (approximately 3’ x 5’)
1 - Dough knife
1 - Cake turn table
1 - Paring knife
1 - Baker’s Scale, spring scale, or digital scale
1 - Regular rolling pin
1 - Egg wash brush
1 - Metal bench scraper
3 - Pastry bags at least 3
1 - Bench canvas
1 - Asst. Cake decorating tips with food coloring
1 - Lg. kitchen spoon
1 - Serrated knife
Graduated Measures (cup, pint, quart, gallon)

Optional Tools:
Cream Horn Irons
Round or fluted cookie cutters only
No other food items allowed (e.g., sprinkles, decorates, etc.) DECORATING ICING WILL BE PROVIDED BY THE HOST SCHOOL.

ALL FORMULAS WILL BE PROVIDED. Serve Safe/HACCP sanitation procedures will need to be followed.

National Skills:
The commercial baking contest covers a variety of production techniques and knowledge of the modern baking industry. The contestants are given a written test covering basic baking science. The performance phase is the actual preparation of goods and presentation of finished products ready for sale to customers. Contestants are given a predetermined selection of all necessary food items.

State Skills:
Each contestant will be supplied with the raw ingredients and/or ready-to-use dough(s) to produce bakery items. Formula and mix/bake procedures for each item, with the exception of cake icing, white, will be provided to each contestant.

Contestants will also be graded on the following: Scaling, Mixing, Dough Make-up Skills, Batter Mixing Methods, General Baking and Finishing, Presentation
Each student receives:

- 2 lbs. Puff Pastry Dough (or 3 sheets)
- 2 lbs. Danish Pastry Dough
- Recipe for White Bread Dough
- Recipe for Pie Dough
- Recipe for Muffin Batter
- 2 cake layers (or one cake to be split)
- Frosting
- Fillings

Each student will prepare:

From the Bread Dough:

(raw dough weights)

1. 12 oz. pan loaf
2. 12 oz round loaf
3. three strand braided loaves 18 oz each loaf
4. 1 sheet pan of 2 oz. single knot dinner rolls

From Puff Pastry Dough: Prepare 3 varieties of Puff Pastry Products

From the Danish Dough: Prepare 3 varieties of Danish

Prepare Pie Dough:

- Prepare one 9” two crust pie
- Prepare one 9” lattice top pie
- Using 1 #12 ounces of fruit filling

Students will cut and fill and decorate two (2) cake layers with the inscription of “Happy Birthday”

- Two (2) different styles of borders
- Three (3) to five (5) roses, leaves, appropriately colored and decorated for size of cake.
- Cake will be professionally presented.

Pie Dough Recipe:

- 20 ounces Pastry flour
- 14 ounces Shortening, all-purpose
- 6 ounces Cold water
- 2 teaspoons Salt
- 1 ounce Sugar

1. Gather ingredients and equipment.
2. Rub or cut shortening into flour to form nuggets the size of peas.
3. Dissolve salt and sugar in water.
4. Add water mixture to flour mixture.
5. Refrigerate. Use as needed
Blueberry Muffin Recipe:

- 8 ounces Sugar
- 1 1/2 ounces Butter, unsalted
- 1/3 teaspoon Salt
- 1 teaspoon Vanilla extract
- 5 ounces Eggs
- 9 ounces Bread flour
- 1/4 ounce Baking soda
- 9 ounces Sour cream
- 7 ounces Blueberries, frozen

1. Gather ingredients and equipment.
2. Preheat oven. Grease muffin pans or line with muffin liners.
3. Cream sugar, butter, salt and vanilla together.
4. Add half of the eggs and cream together for one (1) minute. Scrape bowl. Add rest of eggs and cream for one (1) more minute.
5. Mix flour and soda together and add to mix. Mix until flour is absorbed into mixture.
6. Add sour cream and scrape bowl for one (1) minute until blended.
7. Fold in blueberries into batter.
8. Scoop with appropriate-sized scoop.
9. Bake 20-25 minutes or until golden brown and springy.

White Pan Bread Recipe:

- 2 1/2 pounds Bread flour
- 4 ounces Sugar
- 4 ounces Shortening
- 2 ounces Dry milk
- 1 ounce Dry active yeast
- 1 ounce Salt
- 4 ounces Eggs
- 1 1/4 pounds Water

1. Gather ingredients and equipment.
2. Dough temperature: 80°F
3. Allow dough to rise (approximately 90 minutes) punch and allow to rise again. (Approximately 45 minutes)
4. Make up bread products as indicated.
5. Wrap excess dough and leave on rolling rack.
6. Finish fermentation and bake 400°F.

Notes: Students should come to competition with a work schedule and notes.
CULINARY ARTS CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Baker/Chef uniform without school name
White chef’s scarf (Optional)
Pen, Pencil, Black Sharpie
Non-Slip Black Work shoes
White chef’s hat, (paper or cloth)
No school I.D. may be worn on any part of the uniform.
A 10% point total will be deducted for infractions or unprofessional looking contestants.

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty

Equipment:
1 ea. - Food Mill, small
2 ea. - S/S Bowls small and medium
1 ea. - Graduated Measuring Containers – Cup, Quart, Half Gal.
1 ea. - Portion scale
1 ea. - Instant Read Thermometer

Pots and Pans:
2 ea. - Saucepan 1 qt.
2 ea. - Saucepan 2 qt. with cover
1 ea. - Cast Iron Skillet 10”-12”

Knives:
1 ea. - Paring knife
1 ea. - Boning knife
1 ea. - French knife
1 ea. - Serrated knife
1 ea. – Boning knife
1 ea. – Butcher’s steel

Hand tools:
1 ea. – Solid and slotted spoon
1 ea. – Potato peeler
1 ea. – Parisienne scoop
1 set - Graduated measuring spoons
1 ea. – Wire Wisk, med.

Specific listed tools are not required, but you will not be given tools at the site Tools that are not listed above will not be allowed

Judges will check that each contestant has only the exact tools and equipment stated.
NO OTHER TOOLS AND EQUIPMENT ARE ALLOWED, INCLUDING UNIFORMS.
PLEASE MARK EACH PIECE OF EQUIPMENT with your initials only (attach a piece of masking tape and mark with a marker).

Note: Familiarize yourself with the following:
- CIA Chart of Vegetable Cuts
- Avocado
- Shallots

State Skills:
The contest for culinary arts is a five (5) hour competition, encompassing both hot and cold food preparation and presentation. Contestants are rated on their technical culinary skills, sanitation and food safety techniques, and above all, the quality of their prepared items, particularly their creative presentation.

NOTE: EACH CONTESTANT WILL PREPARE A MEAL FOR FOUR PEOPLE. THE CONTESTANT WILL PLATE TWO PORTIONS OF HIS/HER CHOICE, ONE FOR TASTING. RECIPES ARE PROVIDED VARIATIONS OF RECIPES ARE ALLOWED.
Meat Fabrication:
Contestants will breakdown and fabricate one (1) whole chicken into 8 pieces and be presented to the judging panel before proceeding.

Knife Work:
Contestants will demonstrate and identify 5 different knife cuts and display them to the judging panel before utilizing in the recipes or cooking process.

Hot/Cold Food Preparation and Presentation:
Utilizing the fabricated chicken along with other available food items, the contestant will produce two plates/portions the following food items to the judging panel. There are recipes included in this packet; you are NOT required to adhere to them and variation is allowed but you may only use the available food items.
- Sautéed Chicken Breast Entrée– Served with appropriate Sauce, Starch and Garnish
- Braised Chicken Leg/Thigh Entrée– Served with appropriate Sauce, Starch and Garnish
- Appetizer– Generally utilizing the Wing Portions of the Chicken served with appropriate Sauce
- Chicken Broth– Prepare Chicken Broth/Stock utilizing the carcass and scraps of the fabricated Chicken
- Minestrone Soup– 2 portions of soups, variation of recipe allowed
- Rice Pilaf
- Broccoli with Hollandaise Sauce
- Glazed Carrots
- Salad with an Emulsion Dressing

Variations of recipes are allowed

Note to Contestants:
1. Read each recipe carefully prior to beginning. All recipes have been included on the following pages.
2. Underline items which must be cooked and cooled, or which must sit prior to cooking.
3. Check all your ingredients prior to cooking. Notify a judge immediately if you are missing an item.
4. Prepare your items according to the time each item requires for cooking, holding, maintaining, chilling, etc. Note well any items, which require special handling, such as “keep warm” or “chill.” However, remember that you will present your menu in the following order as soon as they are ready.
   A. Appetizer
   B. Soup
   C. Salad
   D. Entrée/Vegetable/Starch (must be presented as a unit)

The contest manager will keep you informed of the remaining time.
CULINARY ARTS Continued

STEWED CHICKEN ENTREE - Skill Component: Braise

**Yield:** 2 Servings

Legs, thighs - Large dice, to taste
Chicken
- Salt
to taste
- Pepper as needed
Flour for dredging
1 oz Clarified Butter or Oil
1 clove Garlic, crushed
From knife cuts Onions
From knife cuts Carrot
From knife cuts Turnip
From knife cuts Celery
From knife cuts Tomato concassee
2 t Tomato Paste

Yield: 2 Servings

1 oz White Wine

Yield: 2 Servings

3/4 C Chicken Stock

Yield: 2 Servings

1 - 1/2 Demi Glace

Yield: 2 Servings

As desired Aromatics - Seasonings and/or herbs
From knife cuts Toume Potatoes

1. Season chicken
2. Dredge lightly m. flour - brown m hot oil on all sides - remove from pan
3. In same pan sauté onions and carrots to a light brown. Add and sauté celery to aroma
4. Add tomato concasse and paste and cook out 3 minutes
5. Deglaze with wine - add chicken stock and reduce by 1/2
6. Add demi glace, turnips, and aromatics - bring to a simmer
7. Add chicken back to sauce - cover and cook on stove top or in a 325 degree oven until done, 35-40 minutes
8. During the cooking process, add the potatoes at an appropriate time to assure proper doneness
9. Degrease Sauce and adjust seasoning and consistency as necessary
10. Plate two portions and garnish as desired.

For creative variation you may utilize additional herbs and seasonings from the contest supplies at your discretion.

VEGETABLE ACCOMPANIMENT FOR SAUTEED ENTREE - Skill Component: Green Vegetable Cookery Broccoli

**Yield:** 2 Servings

2 each Egg Yolks
1 oz Water
1 oz Fresh Lemon Juice
to taste Hot Sauce
6 oz Clarified Butter

1. Cut broccoli into uniform cuts, enough for two orders, blanch and hold for service.
2. Several minutes before service, cook broccoli so that they are tender.
   Toss with melted butter, salt and pepper. Place on plate and top with Hollandaise Sauce,
3. To make Hollandaise: egg yolks in SS bowl. Add lemon juice and water.
4. Place the bowl over double boiler, whipping the mixture continually with whip.
   As the yolks cook, the mixture will thicken. When the mixture is thick enough Remove from the heat. Do not overcook the egg yolks.
5. Adjust consistency of the yolk mixture with a touch of water.
6. Begin to add the warmed clarified butter to the egg yolk mixture, Whisking constantly to form an emulsion.
7. Adjust the seasonings with salt and pepper and Tabasco sauce to taste.
   Hold for service in/over warm brandy marie.

For creative variation you may utilize additional herbs and seasonings from the contest supplies at your discretion.
STARCH ACCOMPANIMENTS FOR SAUTÉED ENTREE - Skill Component: Pilaf  

<table>
<thead>
<tr>
<th>Yield: 2 servings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 cup Butter</td>
</tr>
<tr>
<td>1/4 cup Diced Onion</td>
</tr>
<tr>
<td>1/4 cup Diced Carrot</td>
</tr>
<tr>
<td>1/2 cup Orzo</td>
</tr>
<tr>
<td>1 tablespoon Chicken Base</td>
</tr>
<tr>
<td>1/4 cup Water</td>
</tr>
<tr>
<td>1/4 cup Diced Carrot</td>
</tr>
<tr>
<td>1/2 cup Orzo</td>
</tr>
<tr>
<td>to taste Salt</td>
</tr>
<tr>
<td>to taste Black Pepper</td>
</tr>
</tbody>
</table>

1. Melt butter in 2 quart sauce pot.  
2. Brown orzo in butter, be careful not to burn.  
3. Add vegetables, rice and stir to coat.  
4. Add stock and season to taste.  
5. Bring to boil, cover and reduce to simmer.  
6. Cook until all liquid is absorbed and rice is tender.  
7. Reserve for service.  

Plate two (2) plates of entree with appropriate starch and vegetable accompaniment.

CHICKEN STOCK - Skill component: Stock  

<table>
<thead>
<tr>
<th>Yield: 2 Qts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicken bones and trim</td>
</tr>
<tr>
<td>2 1/4 Quarts Water</td>
</tr>
<tr>
<td>1/2 Pound MirePoix</td>
</tr>
<tr>
<td>1 Sachet</td>
</tr>
</tbody>
</table>

1. Add cold water to chicken bones and meat. Bring to a boil-reduce to a simmer.  
2. Simmer 30 minutes skimming fat and scum.  
3. Add mirepoix and Sachet.  
4. Simmer until desired flavor is reached.  
5. Strain-use as needed.

SALAD WITH EMULSION DRESSING, Contestants Choice - Skill Component: Emulsion  

<table>
<thead>
<tr>
<th>Yield: 2 Servings</th>
</tr>
</thead>
</table>
| Each contestants will have a selection of greens for this salad.  
Prepare emulsion dressing of choice using ingredients available.  
Prepare appropriate garnish (Croutons, nuts, etc.).  
Immediately prior to the designated plating time for the salad course, assemble and plate your salad.  
Deliver one plate to Tasting Judges and plate to Presentation area.

GLAZED CARROTS - Skill Component: Glazed Vegetables  

<table>
<thead>
<tr>
<th>Yield: 2 portions</th>
</tr>
</thead>
</table>
| Each contestants will have a selection of greens for this salad.  
Prepare emulsion dressing of choice using ingredients available.  
Prepare appropriate garnish (Croutons, nuts, etc.).  
Immediately prior to the designated plating time for the salad course, assemble and plate your salad.  
Deliver one plate to Tasting Judges and plate to Presentation area.

<table>
<thead>
<tr>
<th>From knife cuts</th>
<th>1 oz</th>
<th>2 T</th>
<th>2 oz</th>
<th>to taste</th>
<th>to taste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batonnet Carrots</td>
<td>Butter</td>
<td>Sugar or honey</td>
<td>Stock</td>
<td>Salt</td>
<td>Pepper</td>
</tr>
</tbody>
</table>

1. Place carrots in pan with butter, sugar, and stock.  
2. Cover with a parchment paper and bring to a simmer.  
3. Simmer until vegetables are tender and they are glazed.  
You may utilize seasonings from the contest supplies at your discretion.
**MIÑESTRONE SOUP**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
<td>1/2 cup</td>
<td></td>
</tr>
<tr>
<td>Fresh Spinach</td>
<td>2 cups</td>
<td>cleaned, rough chop</td>
</tr>
<tr>
<td>Onion</td>
<td>1/4 cup</td>
<td></td>
</tr>
<tr>
<td>Chicken and Beef Stock</td>
<td>4 cup each</td>
<td></td>
</tr>
<tr>
<td>Carrots</td>
<td>1/4 cup</td>
<td></td>
</tr>
<tr>
<td>Rich Tomato Sauce</td>
<td>1 cup</td>
<td></td>
</tr>
<tr>
<td>Celery</td>
<td>1/4 cup</td>
<td></td>
</tr>
<tr>
<td>Kidney White Beans</td>
<td>1 cup each</td>
<td></td>
</tr>
<tr>
<td>Zucchini</td>
<td>1/4 cup</td>
<td></td>
</tr>
<tr>
<td>Cooked Pasta</td>
<td>1/4 cup</td>
<td>Ditalini</td>
</tr>
<tr>
<td>Summer Squash</td>
<td>to taste each</td>
<td></td>
</tr>
<tr>
<td>Fresh Basil, Oregano, Thyme, Salt, Pepper</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Wash and clean all vegetables.
2. Dice vegetables paysanne and sauté in olive oil.
3. Then add all stock, tomato sauce, and the beans, season to taste.
4. Simmer until the vegetables are al dente, adjust seasonings.
5. Add the cooked pasta

**GARLIC BREAD CROUTONS FOR SOUP:**

- French bread
- Butter
- Chopped Garlic
- Paprika
- Chopped Parsley
- Parmesan Cheese

1. Slice bread cross ways, 1/4 inch slices.
2. Sprinkle with garlic butter.
3. Sprinkle with paprika, Parmesan cheese, and chopped parsley.
4. Bake 400°F oven until golden brown and hot.
5. Reserve for service.

**SAUTEED CHICKEN BREAST WITH TARRAGON CREAM SAUCE - Skill Component: Saute with pan sauce**

Yield: 2 servings

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicken breasts from morning to session</td>
<td>2 each</td>
<td></td>
</tr>
<tr>
<td>Salt</td>
<td>As needed</td>
<td></td>
</tr>
<tr>
<td>Pepper</td>
<td>As needed</td>
<td></td>
</tr>
<tr>
<td>Flour for dredging</td>
<td>As needed</td>
<td></td>
</tr>
<tr>
<td>Heavy Cream</td>
<td>6 oz</td>
<td></td>
</tr>
<tr>
<td>Clarified Butter or Oil</td>
<td>1 oz</td>
<td></td>
</tr>
<tr>
<td>White Wine</td>
<td>1/4 cup</td>
<td></td>
</tr>
<tr>
<td>Chicken stock</td>
<td>1/4 cup</td>
<td></td>
</tr>
<tr>
<td>Shallot, chopped</td>
<td>2 t</td>
<td></td>
</tr>
<tr>
<td>Tarragon, chopped</td>
<td>1 t</td>
<td></td>
</tr>
</tbody>
</table>

1. Season chicken and dredge lightly in flour.
2. Sauté to correct color and doneness - remove and keep hot.
3. Quickly sauté shallot in hot pan.
4. Deglaze pan with wine and reduce almost dry.
5. Add stock and reduce almost dry.
6. Add tarragon and cream and reduce to desired consistency. Season to taste.
7. Serve chicken with sauce.

Instructions:

- Use chicken breasts fabricated during Morning Session
- Execute sauté cooking method
- Prepare pan sauce
RESTAURANT SERVICE CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
- Black work pants
- Black leather shoes
- Black tie
- White oxford shirt
- Black socks or neutral hose
- ¾ length bistro style apron
- Hairnet for below the collar hair
- NO sneakers allowed
- NO cell phones allowed

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty

Supplied by the Technical Committee:
- All necessary equipment and food items
- All necessary information and furnishings for judges and technical committee.

Supplied by the Contestant:
- Black pen
- Pencil
- Guest check presenter (black)
- Table crumber
- Manual calculator

State Skills:
1. The practical contest will be geared toward American Style Table service cover as seen in the SkillsUSA Leadership Handbook (Formal Service) in a commercial restaurant.
2. The performance phase will be actual customer service of customers (judges) in a restaurant setting.
3. Contestants will be given a written test covering different styles of table service, proper table set up, side work, taking a customer’s order, personal hygiene, sanitation and general table service techniques. This test will be given prior to the actual practical test at the test location.
4. Contestants will demonstrate their ability to perform jobs and skills selected from the following lists of competencies:
   A. Table set up as seen in the SkillsUSA Leadership Handbook
      - Flatware
      - Dishware
      - Glasses
      - Linen/napkin folding (8 different folds)
      - Condiments
   B. Professional Presentation
      - Greeting
      - Attitude
   C. Taking an order
   D. Sequence of service
   E. Carrying a service tray
   F. Meeting customers’ needs/handling problems
   G. Computation and presentation of guest check
   H. Breakdown of table
   I. Sanitation/personal hygiene
      - SkillsUSA’s Leadership Handbook to be used for reference for table setting
RESTAURANT SERVICE Continued

Skill Performance:
The contest will focus on guest service and guest relations in the dining room and “front of the house” skills of guest hospitality and food and beverage services. Contest Guidelines:
1. Contestants should be prepared to perform the duties of a dining room server as well as seating host/hostess.
2. Actual food from a kitchen may or may not be used, depending on the facility. Mock plates will be used. Mock beverages will be served.
3. Contestants will be judged on personal appearance, tableside manner, professionalism, ease with guests, courtesy, general knowledge and technical and verbal skills.
4. Presentations will be made to actual “guests” who will not rate contestants
5. A minimum of one table-side service will be demonstrated, which could include any of the following
   (Demos will be done in front of customers and/or judges):
   a. Caesar salad
   b. Guacamole
   c. Wine presentation (college/postsecondary only)
6. Judging will be in separate increments:
   Grooming/uniform, table setup and service, host and greeting.
   One table-side presentation will be mandatory during the service time. For college/postsecondary, a basic wine knowledge to include proper glass and wine service will be judged. Menu knowledge and chef’s special will also be judged.

Standards and Competencies:
1.0 Set up various table arrangements per standards outlined by the technical committee
2.0 Perform the role of host to guests per standards outlined by the technical committee
3.0 Perform the role of dining room server/waiter/waitress per standards outlined by the technical committee. Each contestant will have 90 minutes in total (10 minutes to review menu, 10 minutes for pre-meal meeting with judge to ask relevant questions about the menu identified in the first viewing of the menu, 10 minutes for napkin folding (8 different folds), 15 minutes for table set-up and 45 minutes from introducing themselves to guest check presentation. During the service experience as a server, you will be required only ONE (1) guest requested tableside menu preparation item.
4.0 Display appropriate grooming and uniform per guidelines of the contest technical committee
SERVICE OCCUPATIONS B

SERIES DIRECTOR:
DONNA McMAHON

CONTACT INFORMATION:
NASHOBA VALLEY TECHNICAL HIGH SCHOOL
100 LITTLETON ROAD
WESTFORD, MA 01886
(978) 692-4711
dmcmahon@nashobatech.net

EVENTS:

COSMETOLOGY (UNDER 500 HOURS)
Briefing: Salon A
Employability Testing: At contest Site for models only
Competition: Blackstone - Cosmetology Shop—631D
Event Manager: Sharon Clohesy

COSMETOLOGY (OVER 500 HOURS)
Briefing: Salon A
Competition: Blackstone - Cosmetology Shop (Clinic Area)—637D
Event Manager: Gail Fabri-Schwartz

ESTHETICS
Briefing: Salon A
Employability Testing: At Contest Site
Competition: Blackstone - Room 625D
Event Manager: Joni Leahey

NAIL CARE
Briefing: Salon A
Employability Testing: At Contest Site for models only
Competition: Blackstone - Library Media Center—710A, 111D
Event Manager: Grace Moschetto
COSMETOLOGY CONTEST (UNDER 500 HOURS)

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty

Contestants:
- White top & bottom, as shown
- Minimal Make-up for women
- NO sneakers

Models:
- Black work pants, as shown
- White polo, or official SkillsUSA polo shown
- NO visible piercing on face or body OF YOUR MODEL FOR SAFETY REASONS
- Any JEWELRY should be put on after last comb-out

Models will arrive with clean faces with NO make-up and clean hair. All models will take a SkillsUSA employability skills test at contest site. For SAFETY reasons there should not be any visible piercing on face or body OF YOUR MODEL. Any JEWELRY should be put on after last comb-out.

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty

Trash bag
Capes
Neck bands (sanek strips)
Hair Cutting Tools
Clips (butterfly, double prong)
Flat Irons
Hand Sanitizer

Towels (enough for all services)
Spray Bottle
Combs
Cosmetics for makeup application
Styling Products
Bobby Pins
Mannequin

Blow dryer
Hair Sprays
Brushes
Mannequin Stand
Curling Iron (Marcel)
Hair Pins

1 Mannequin Needed - GABRIELA #560 19”-21”

MAIL TO: BURMAX COMPANY
28 Barretts Ave.
Holtville, NY 11742
Attn: School Division

FAX: 1-631-289-7590
CALL TOLL FREE: 1-800-645-5118

Note to All Competitors: Additional equipment maybe brought to the contest site, but will be subject to the approval of the judging team.

State Skills
All contestants must present a resume to the Events Manager on the day of the competition. Please do not include the name of your school on the resumé. All contestants must have the required mannequin listed on the tool list. Refer to attached order form for information on how to order your mannequin.

Overview: Cosmetology contestants are required to create a hair style and make-up based on a given theme. Live models will be used for this portion of the contest. Models should come to the competition with clean dry hair ready to be styled. They will also duplicate a preselected haircut and style on a manikin. Contestants will also be required to answer a question during a brief professional interview.

Page 122 • 2019 State Technical Standards
1. Fantasy Hairstyle on model, 60 minutes for 250 possible points
   a. Style hair to produce fantasy effects. (Disney Fantasy Style)
   b. Incorporate braids, twists, and or curls.
   c. Secure hair with bobby pins, hair pins, and covered bands if needed.
   d. Demonstrate balance, proportion, and form in the finished look.

2. Fantasy Make-Up on model, 45 minutes for 250 possible points
   After combing out the fantasy hairstyle, perform a dramatic fantasy make-up to compliment the hairstyle. False eyelashes may be attached using the appropriate adhesive. Creativity and artistry, safety and sanitation are being judged here. No Masks can be use on the face.

Preselected Haircut and Finish Hair Style, on GABRIELA #560 long-haired mannequin (12 “ or more):
3. Preselected Haircut as shown, 45 minutes for 200 possible points
   Perform a haircut with tools necessary to complete the (pre-selected) style.

4. Finish Hair Style (after haircut) as shown, 30 minutes for 100 possible points
   Blow dry and style using a curling iron and/or flat iron to complete the finished look.

5. Overall Results of Workmanship for 100 possible points
   Execution of skill, precision and professionalism throughout the contest
   Cleanliness and organization of the working environment
   Sanitation and safety procedures throughout the contest

6. Interview Question, 5 minutes for 100 points
   During the competition, all contestants will be briefly interviewed. During the interview, all contestants will have a choice of three (3) questions at random to be answered within a five (5) minute time period. However, all contestants will be allowed to complete these interviews and will not be marked down for any additional time needed. Contestant scores will not be based on the answers they give but focused on the professional presentation and their ability to sell themselves during the interview. One of the following questions will be asked:
   a. Within the beauty industry, where do you see yourself in the next two (2) years?
   b. How will a salon benefit by hiring you?
   c. Explain two (2) qualities you are looking for in a salon and why?

Special Notes:
1. No hair pieces, weaves or extensions will be allowed for any portion of the competition. Only the hair on the model's head may be used to create the style.
2. Hair accessories of any type may be used provided that no more than 1/4 of the completed hairstyle is covered.
3. No contestant or model should enter the testing site with any items containing their school name.
4. Follow all sanitation and safety rules!

Follow the observer rules for all contests in Service Occupations B.
   Advisors and observers will be allowed to view the students during the competition from the designated area only. Any infraction will result in contestant disqualification.
   Talking or gesturing by the advisors or observers may result in contestant disqualification.
   Advisors or observers will not be permitted to communicate with contestants in the holding/assembly area. As in the past, advisors will not be allowed to communicate in any way with the event manager or judges involved in the contest until the contest is complete and all judges' score sheets are marked and turned in. Any violation of this will result in the disqualification of the advisor's student(s).
   Contestants are to stay until they are debriefed at the end. Any communication from observers will result in contestant disqualification. No prints or information will be allowed to leave with the student participants/school personnel.
   No videotaping of contests. (Still photography only)
SUPER LOW PRICES! Good thru March 31, 2019.
ALL 100% HUMAN HAIR

DELUXE DEBRA MANIKIN
DLX504
18” – 20” brown hair.
$31.95 ea.

GABRIELA MANIKIN
560
19” – 21” brown hair. Natural neck and actual human hair growth pattern. Perfect for hair designs with forward styling.
$39.40 ea.

JADE MANIKIN
758
100% Virgin European hair. Unprocessed, naturally soft. 20” – 22” light brown hair.
$51.00 ea.

JAKE BUDGET MANIKIN
658
Great for barbering techniques: clipper cuts, fading, flat-topping, and layering. 18” brown hair.
$27.95 ea.

MR. SAM SHOULDER MANIKIN WITH BEARD
SAM-9
Great for barbering techniques: clipper cuts, fading, flat-topping, and layering. 19” medium brown hair.
$46.20 ea.

NICKI CHEMICAL-FREE MANIKIN
N333
22” light brown hair. 100% natural, hand-implanted human hair, free from all chemicals and hair color. Perfect for color treatments and chemical processes. Features a vinyl head, facial makeup, and natural neck.
$65.55 ea.

NICKI CHEMICAL-FREE MANIKIN
N333
22” light brown hair. 100% natural, hand-implanted human hair, free from all chemicals and hair color. Perfect for color treatments and chemical processes. Features a vinyl head, facial makeup, and natural neck.
$65.55 ea.

SAM II MANIKIN – BROWN
S153
18” – 22” brown hair.
$37.48 ea.

SAM II MANIKIN – BROWN
S153 DUO WITH H-222 HOLDER
$40.52 ea.

RACHEL MANIKIN
451
24” – 26” blonde hair. Natural neck and actual human hair growth pattern.
$72.50 ea.

SAM II MANIKIN – BROWN
S153
18” – 22” brown hair.
$37.48 ea.

SAM II MANIKIN – BROWN
S153 DUO WITH H-222 HOLDER
$40.52 ea.

SAMANTHA SHOULDER MANIKIN SAM-4
23” blonde hair. Shoulder manikin with natural neck. Pierced ears.
$56.95 ea.

SAM II MANIKIN – BROWN
S153
18” – 22” brown hair.
$37.48 ea.

SAM II MANIKIN – BROWN
S153 DUO WITH H-222 HOLDER
$40.52 ea.

Samantha Shoulder Manikin
SAM-4
23” blonde hair. Shoulder manikin with natural neck. Pierced ears.
$56.95 ea.

YOLANDA MANIKIN
E600
21” brown hair. 100% yak animal hair.
$22.95 ea.

YOLANDA MANIKIN
E600
21” brown hair. 100% yak animal hair.
$22.95 ea.

FAX: 631.289.7590 BURMAX COMPANY • 28 Barretts Avenue • Holtsville, NY 11742 • Attn: School Division
PHONE: 800.645.5118

2019 State Technical Standards • Page 125
COSMETOLOGY CONTEST
(Over 500 Hours)

Requirements and Scope of Contest

Clothing Requirements: failure to do so will result in a clothing penalty

<table>
<thead>
<tr>
<th>White top &amp; bottom, as shown</th>
<th>White professional shoes</th>
<th>Minimal jewelry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimal Make-up for women</td>
<td>NO jeans or leggings</td>
<td>NO cell phones allowed</td>
</tr>
<tr>
<td>NO sneakers</td>
<td>NO open toes or open back shoes</td>
<td>NO high heels or platform</td>
</tr>
</tbody>
</table>

Remember, you will be judged on professional image, as well as professional attitude.

Note to All Competitors: Additional equipment maybe brought to the contest site, but it will be subject to the approval of the judging team.

2 Mannequin Needed - Nicki 100% Chemical Free Manikin #N333
1 Mannequin Needed - Jake Budget Manikin #658

MAIL TO: BURMAX COMPANY
28 Barretts Ave.
Holtsville, NY 11742
Attn: School Division

FAX: 1-631-289-7590
CALL TOLL FREE: 1-800-645-5118

State Skills:
All contestants will demonstrate their ability to perform skills on mannequins. Cosmetology contestants are required to duplicate preselected haircuts and styles on a mannequin. Pre-selected haircuts will be shown to all competitors at the competition site.

1. Long Hair Design on Nicki Manikin Burmax #N333, 60 minutes - 200 possible points (includes color binder/poster)
   - Steps must be followed in the exact order.
   - Tools assembled and station prepared.
   - Begin to work in the hairstyle of choice, create an evening look, use your creativity to achieve an outstanding up to date style.
   - Once the hairstyle is completed, clean up and leave the manikin at the station to be judged.
   - a. Long Hair Design Students show their skills involved in creating an elegant and balanced upswept style that can be worn for a special event. Bobby pins and hair clips should be hidden, and no back combing or back brushing exposed.
   - b. The techniques they incorporate should follow current trends and be proportionate to the manikin. “No lose hair or just curl down hair will be allowed”. The use of heating tools such as curling iron or hot rollers, and any type of hair product such as spray, mousse, pomade, etc. is allowed. No hair extensions or ornaments allowed.
c. This manikin should have dimensional texture created with hair color/lightener previously done on the manikin.
d. Students must present a poster board or binder for presentation of their pre-hair coloring techniques and include formulas used.

2. **Permanent Waving/Relaxing (Mock) on Nicki Manikin Burmax #N333, 60 minutes - 200 possible points**
   a. On a long-haired mannequin section hair into 9 Panels.
   b. Demonstrate a straight set perm wrap, spiral wrap, piggyback wrap and curvature wrap.
   c. Demonstrate a mock solution and or neutralizer application.
   d. Demonstrate the basic procedure for a virgin chemical relaxer.

3. **Hair Cutting - Men Short Cut and Design on Jake Budget Manikin #658, 45 minutes - 200 possible points**
   Judges will select cut and style at the event - student will perform haircut, blow dry and style to the given picture.
   a. Duplicate a predetermined haircut and design that has been selected by the judges at the event. Students may use shears, razor, clippers, and thinning shears as needed.
   b. Duplicate the finish design using a blow dryer, and thermal tools as needed.
   c. Use appropriate styling products, tools to duplicate the selected haircut.

4. **90 Degree Haircut 60 minutes - 200 possible points**
   Haircut on previously used Nicki Manikin Burmax #N333, after judges have scored the Permanent Waving/Relaxing (Mock)
   Judges will select cut and style at the event - student will perform haircut, blow dry and style to the given picture.
   a. Duplicate a predetermined haircut and design that has been selected by the judges at the event. Students may use shears, razor, clippers, and thinning shears as needed.
   b. Duplicate the finish design using a blow dryer, and thermal tools as needed.
   c. Use appropriate styling products, tools to duplicate the selected haircut.

5. **Overall Results of Workmanship for 100 possible points**
   a. Execution of skill, precision and professionalism throughout the contest
   b. Cleanliness and organization of the working environment
   c. Sanitation and safety procedures throughout the contest

6. **Interview Question - Interview Question, 15 minutes - 100 possible points**
   During the competition, contestants will be briefly interviewed. During the interview, all contestants will be asked the same question, to be answered within a five (5) minute time period. However, all contestants will be allowed to complete these interviews and will not be marked down for any additional time needed. Contestants scores will not be based on the answers they give but focused on the professional presentation and their ability to sell themselves during the interview.

Follow the observer rules for all contests in Service Occupations B.
Advisors and observers will be allowed to view the students during the competition from the designated area only.
Any infraction will result in contestant disqualification.
Talking or gesturing by the advisors or observers may result in contestant disqualification.
Advisors or observers will not be permitted to communicate with contestants in the holding/assembly area.
As in the past, advisors will not be allowed to communicate in any way with the event manager or judges involved in the contest until the contest is complete and all judges’ score sheets are marked and turned in.
Any violation of this will result in the disqualification of the advisor’s student(s).
Contestants are to stay until they are debriefed at the end. Any communication from observers will result in contestant disqualification.
No prints or information will be allowed to leave with the student participants/school personnel.
No videotaping of contests. (Still photography only)
**COSMETOLOGY (OVER 500 HOURS) Continued**

**ORDER FORM**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deluxe Debra Manikin</td>
<td>DLX804</td>
<td>18” – 22” brown hair.</td>
<td>$31.95</td>
</tr>
<tr>
<td>Gabriela Manikin</td>
<td>560</td>
<td>19” – 21” brown hair. Natural neck and actual human hair growth pattern.</td>
<td>$39.40</td>
</tr>
<tr>
<td>Jake Budget Manikin</td>
<td>658</td>
<td>19” – 22” brown hair. Natural neck and actual human hair growth pattern.</td>
<td>$46.20</td>
</tr>
<tr>
<td>Yolanda Manikin</td>
<td>E600</td>
<td>21” brown hair. 100% yak animal hair.</td>
<td>$22.95</td>
</tr>
<tr>
<td>Nicki Chemical-Free Manikin</td>
<td>N333</td>
<td>23” light brown hair. 100% natural, hand-implanted human hair, free from all chemicals and hair color. Perfect for color treatments and chemical processes. Features a vinyl head, facial makeup, and natural neck.</td>
<td>$65.55</td>
</tr>
<tr>
<td>JADE Manikin</td>
<td>758</td>
<td>100% Virgin European. Unprocessed, naturally soft. 20” – 22” light brown hair.</td>
<td>$51.00</td>
</tr>
<tr>
<td>Jake Budget Manikin</td>
<td>658</td>
<td>Great for barbering techniques: clipper cuts, fading, flattopping, and layering. 18” brown hair.</td>
<td>$27.95</td>
</tr>
<tr>
<td>Mr. Sam Shoulder Manikin</td>
<td>SAM-9</td>
<td>Great for barbering techniques: clipper cuts, fading, flattopping, and layering. 19” medium brown hair.</td>
<td>$46.20</td>
</tr>
</tbody>
</table>

**SUPER LOW PRICES! Good thru March 31, 2019.**

**ALL 100% HUMAN HAIR**

**SkillsUSA**

**BURMAX COMPANY • 28 Barretts Avenue • Holtsville, NY 11742 • Attn: School Division**

**FAX: 631.289.7590**  **PHONE: 800.645.5118**

**COMPETITION MANIKINS**

**BURMAX**
NAIL CARE CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty

Contestants:
- White top & bottom, as shown
- White professional shoes
- Minimal jewelry
- Minimal Make-up for women
- NO jeans or leggings
- NO open toes or open back shoes
- NO sneakers

Models:
- Black work pants, as shown
- Black shoes, no heels
- NO sneakers
- NO jeans or leggings
- NO cell phones allowed
- White polo, or official SkillsUSA polo shown

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty

Supplied by Technical Committee:
- Tables, chairs, foot bath, and electrical hook-ups
- Technical guidelines for the specific applications required to be performed
- All necessary information and supplies for judges and the technical committee
- Score sheets for each of the respective contest applicants
- FOOT BATH WILL BE PROVIDED AT COMPETITION SITE

Supplied by Contestant:
- Electrical extension cord
- Cuticle pusher
- Acrylic nail brushes
- Instrument for cutting nail tips
- Water bottle dispenser
- Goggles and mask
- Polish/Lacquer- Dark crème lacquer/polish (i.e., dark red)
- Plastic zip lock bags, gallon size for disposal of refuse
- Portable kit organizer (to transport all necessary items needed for the contest)

Cuccio products gel kit should which include: IF YOU HAVE AN LED LIGHT, ONLY PRODUCTS NEED TO BE ORDERED.

- 1 UV light
- 1 gel brush
- 1 pack of assorted clear tips
- 1 veneer top coat
- 1 primer pen
- 1 veneer base coat
- 1 small brush on glue for tips
- 1 T3 opaque pink hard gel
- 1 T3 white hard gel
- 1 cleanser for induction layer
- 1 odorless monomer 2 ounces
- 1 odorless white powder 2 ounces
- 1 acrylic brush
- 1 sealer
- 1 primer pen
- 1 small sani spray
- 1 odorless pink powder 2 ounces
- 1 pack of 50 large rectangular sculpting forms

Cuccio product nail kit should include:

- 1 pair foam pedicure slippers
- 1 nail brush
- 1 pair toe separators
- 1 Birchwood stick
- 1 sani nail file

Cuccio product pedicure kit should include:

- Supplies, sanitized implements, and products needed to complete a basic pedicure on one foot
- White terry towels (15 x 26) - NO holes, stains or colors allowed
- Anti-bacterial solution for foot bath
- Disinfectant/sanitation surface spray (for work environment)
- Anti-microbial cleanser (for pre-cleaning feet)
- Disinfectant tray system or sanitizing jar (for implements)
- Lotions and creams needed for pedicure
Optional Items Allowed

- Oil (can only be used after the judging has been completed)
- Cushion for chair
- Hand lotion/crème (can only be used after judging has been completed)
- Fine tip art brush for polish/lacquer clean-up

Supplies Not Allowed

No mix and match of chemicals (i.e., the acrylic polymer and odorless monomer used for the sculptured application must be produced by the Cuccio Manufacturer and the resin and catalyst used for the tip and gel application must be produced by the same manufacturer.) No exceptions. Any other items brought by the contestant will be subject to the approval by the technical committee and must be declared at the time of the pre-contest site kit check.

NOTE: CONTESTANTS MUST BE PREPARED TO COMPETE IN ALL SEGMENTS OF THE CONTEST TO ENTER THE SKILLSUSA CHAMPIONSHIPS.

State Skills: To evaluate each contestant’s preparation for employment, to recognize outstanding students for excellence and professionalism. Initial degree of difficulty (pre-judged before the start of the contest at the contest site). Based on condition and characteristic of natural nails.

Initial preparation (pre-judged before the start of contest at the contest site) for 100 possible points

Table Set-Up

- Table setup can only consist of items needed for the specific contest application in progress (i.e., if sculptured is in progress, the tip and wrap and nail art materials should not be visible during this time). Time will be allowed between each contest to reset the table set-up.
- All products and solutions must be properly identified with the manufacturer’s original packaging, original labeling, and be odorless.
- Product labels cannot be defaced.
- Required tools and products accounted for and professionally organized.
- Sanitation solutions must be newly activated and labeled properly.

NOTE: ANY PRODUCT THAT APPEARS TO HAVE BEEN ALTERED, AS DETERMINED BY THE TECHNICAL COMMITTEE, WILL BE JUST CAUSE FOR THE CONTESTANT TO BE DISQUALIFIED FROM THE COMPETITION.

Models: All models will take a SkillsUSA employability skills test at contest site.

Hands must be properly prepped.

- NO jewelry is allowed during competition (i.e., rings, watches or bracelets).
- Contestants and models will be required to have hands cleansed with an anti-microbial cleanser under the supervision of a Technical Committee member prior to entering the contest site and after each (escorted) break.
- Models and contestants will use a hand sanitizer in the contest area.

Product and Tool Control

- Proper control and usage of all items.
- Neatness and professionalism in which all items are used.

1. Gel/Tip Application, 60 minutes for 200 possible points

   Tip Application
   - Tip customizing
   - Proper fit
   - Tip application technique
   - Air pockets
   - Extension length
   - Tip blending
   - Color distinction
   - Tip alignment
   - Amount of gel/glue utilized for each nail
   - Clarity with no visible plastic

2. Sculptured Nails Application, 60 minutes for 200 possible points

   Efficiency in working with product
   - Monomer contamination
   - Clarity
   - Color distinction
   - File marks
   - Void of bubbles and ridges
   - Degree of thinness and thickness

   NOTE: CONTESTANTS MUST BE PREPARED TO COMPETE IN ALL SEGMENTS OF THE CONTEST TO ENTER THE SKILLSUSA CHAMPIONSHIPS.
Cuticle and Nail Groove

Cuticle  Healthy, with no abrasions  Cuticle free of any product
Nail Groove  Extension alignment  No ridge or unevenness
Shape and Length
Shape  Consistent  Proportionate to the hand
Contour  Degree of thinness and thickness  Continuity
Length  Appropriate to nail bed  Consistency
Arch and C-Curve
Arch  Left and right hand side view taper  highest point of the arch
C-Curve  Conformity with nail plate  Lower arch clean and symmetrically balanced
Surface Finish
Smooth High gloss sheen  NO file marks, cloudiness, ridges, dull spots  White fiber lines – tip & wrap application
Lacquer/Polish
Neatness  Brush marks  Skill in evenness and accuracy

3. Perform foot care in a nail care situation on one foot, 30 minutes for 100 possible points
   Perform a basic pedicure
   A. Demonstrate proper steps for a basic pedicure
   B. Demonstrate knowledge of a safe and sanitary pedicure procedure.

4. Wearable Nail Art Application, 30 minutes for 200 possible points
   The contestant will complete wearable nail art on nails. Contestant will have prepared the models nails in the first two required contests. (One hand will have a complete set of sculptured nails. One hand will have a complete set of tips with gel overlay.)
   All contestants will submit to the Events Manager a short summary describing in detail their nail art theme before the competition.
   Nail art will be done on one hand only.
   THE NUMBER OF NAILS USED FOR NAIL ART WILL BE DECIDED AT THE COMPETITION.
   All nail painting and artwork must be done during the wearable nail art application. Items NOT allowed for use in the wearable nail art application: gems, skins, feathers, rhinestones, glitters, threads, fabrics, foils, beads, tapes, jewelry. No 3-D medium art, airbrushing, decals/stencils or cast moldings will be allowed.
   Creativity:  Notable precision of expression
   Color Coordination:  Colors must work together harmoniously
   Level of Difficulty:  Degree of being inventively unique

5. Overall Results of Workmanship for 100 possible points
   Execution of skill, precision and professionalism throughout the contest
   Cleanliness and organization of the working environment
   Sanitation and safety procedures throughout the contest

6. Interview Question, 5 minutes for 100 possible points
   During the competition, all contestants will be briefly interviewed. During the interview, all contestants will have a choice of (3) three questions at random to be answered within a five (5) minute time period. However, all contestants will be allowed to complete these interviews and will not be marked for any additional time needed.
   Also, contestants’ scores will not be based on the answers they give but focused on the professional presentation and their ability to sell themselves during the interview. ONE of the following questions will be asked:
   1. Describe the importance of a thorough client consultation.
   2. Within the professional industry, where do you see yourself in 5 years?
   3. What expectation do you have about being employed in a salon?
Follow the observer rules for all contests in Service Occupations B.
Advisors and observers will be allowed to view the students during the competition from the designated area only.
Any infraction will result in contestant disqualification.
Talking or gesturing by the advisors or observers may result in contestant disqualification.
Advisors or observers will not be permitted to communicate with contestants in the holding/assembly area.
As in the past, advisors will not be allowed to communicate in any way with the event manager or judges involved in the contest until the contest is complete and all judges’ score sheets are marked and turned in.
Any violation of this will result in the disqualification of the advisor’s student(s).
Contestants are to stay until they are debriefed at the end. Any communication from observers will result in contestant disqualification.
No prints or information will be allowed to leave with the student participants/school personnel.
No videotaping of contests. (Still photography only)
ESTHETICS CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty

Contestants:
- White top & bottom, as shown
- White professional shoes
- Hair must be pulled back off face
- NO jeans or leggings
- NO jewelry
- NO cell phones allowed
- NO open toes or open back shoes
- NO sneakers

There will be a clothing penalty for clothing violations

Models:
- Black work pants, as shown
- Black shoes, no heels
- NO jeans or leggings
- NO cell phones allowed
- Hair should be pulled away from the face. Faces should be clean and cosmetic-free. Models should not wear earrings, facial piercings or necklaces. Jewelry may be worn in the fantasy portion of the contest at the completion of the look. If any piercings are not removed, points will be deducted. **NO EXCEPTIONS!** All models will take a SkillsUSA employability skills test at contest site.

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty

- 2 Facial Bed Sheets 78X40
- Facial Steamer
- Headband or Wrap
- 2 Capes
- Gloves
- Decontamination Supplies
- Trash Bag for Soiled Items
- Enough Towels and Washcloths to complete all services
- Skin Care products including:
  - Hand Sanitizer
  - Makeup Remover
  - Cleanser
  - Mask
  - Moisturizer
  - Massage Cream
  - Toner
  - Sunscreen
  - All cosmetics and Disposable items needed for Fantasy Make-up (Eyelashes, Adhesives, Tweezers)
  - All Cosmetics and Disposable items needed for Business Day time Make-up

**Towel warmers will be provided at the competition site. Follow all sanitation and safety rules!**

State Skills:
The contest will include separate skill performance tasks and oral communication assessment. All contestants will demonstrate their ability to perform skills selected from the following list of competencies. Live models are used for facials, massage, mask application, Business Day-Time and Fantasy make-up and should come to the competition with clean skin with no make-up.

1. Cleansing Facial, 60 minutes for 300 possible points
   - Demonstrate: Cleansing
   - Demonstrate Exfoliation
   - Massage using Tapotement (percussion), Petrissage, effleurage, Friction and Vibration...
   - The use of facial steamer and hot towels.
   - Mask application, and removal.

2. Business Makeup Application, 30 minutes for 200 possible points
   - Perform a basic makeup application for daytime business following all safety and sanitation regulations.
ESTHETICS Continued

3. Fantasy Make-up Application, 60 minutes for 300 possible points
   Perform a dramatic evening fantasy makeup without removing the pre applied business make-up. Sequins, feathers, etc., may be
   attached with surgical or other appropriate facial adhesive. False eyelashes may be attached. Creativity and artistry are being looked for here. No Masks are to be used on the face. Following all safety and sanitation regulations.
   The Fantasy makeup portion of the contest will have a preselected theme (movie, story, genre, time period, etc.) A written description of the contestant's character and interpretation within the theme is to be limited to one page, typewritten and contained within a plastic sleeve. The description must be submitted on the day of the competition. No exceptions; none or late descriptions will result in a 10-point deduction.

4. All safety and sanitation regulations must be followed throughout all procedures for possible 100 points

5. Interview Question for 100 possible points
   During the competition, all contestants will be briefly interviewed. During the interview, all contestants will have the same question to be answered within a five (5) minute time period. However, all contestants will be allowed to complete these interviews and will not be marked down for any additional time needed. Also, contestants’ scores will not be based on the answers they give but focused on the professional presentation and their ability to sell themselves during the interview.

Follow the observer rules for all contests in Service Occupations B.
   Advisors and observers will be allowed to view the students during the competition from the designated area only.
   Any infraction will result in contestant disqualification.
   Talking or gesturing by the advisors or observers may result in contestant disqualification.
   Advisors or observers will not be permitted to communicate with contestants in the holding/assembly area.
   As in the past, advisors will not be allowed to communicate in any way with the event manager or judges involved in the contest until the contest is complete and all judges’ score sheets are marked and turned in.
   Any violation of this will result in the disqualification of the advisor’s student(s).
   Contestants are to stay until they are debriefed at the end. Any communication from observers will result in contestant disqualification.
   No prints or information will be allowed to leave with the student participants/school personnel.
   No videotaping of contests. (Still photography only)
TECHNOLOGY EVENTS

SERIES DIRECTOR:
JAYLENE DosSANTOS

CONTACT INFORMATION:
WHITTIER TECH
115 AMESBURY LINE ROAD
HAVERHILL, MA
(508) 282-7727
jdossantos@whittier.tec.ma.us

EVENTS:

ELECTRONICS TECHNOLOGY
Briefing: Southboro Room
Competition: Blackstone - Electronics Shop—643B, 641B
Event Manager: John Sefakis

MOBILE ROBOTICS TECHNOLOGY
Briefing: Southboro Room
Competition: Blackstone - Competition Center
Event Manager: Michael Ogilvy

ROBOTICS AND AUTOMATION TECHNOLOGY
Briefing: Southboro Room
Competition: Blackstone - Room 320B
Event Manager: Bryant Abbot

URBAN SEARCH AND RESCUE
Briefing: Southboro Room
Competition: Blackstone - 200B
Event Manager: Geoffrey Allen, Sergeant First Class
ELECTRONICS TECHNOLOGY CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty

- Blue work pants, as shown
- Safety shoes
- Safety glasses
- SkillsUSA Massachusetts T-Shirt, provided

Safety: avoid a safety violation or being removed from the contest

- NO jeans
- NO cell phones allowed
- NO loose/long hair (must be secured)
- NO loose clothing
- NO jewelry
- NO sneakers

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty

1. Small Hand Tools and Supplies Provided by Contestant
   - A. Diagonal cutters
   - B. Long nose pliers
   - C. Wire strippers
   - D. Hook-up wire (10’ of #22 gauge)
   - E. 3 Solderless breadboard 3” x 6”
   - F. Safety glasses
   - G. Soldering iron
   - H. Solder
   - I. De-soldering tool
   - J. Solder wick
   - K. Jewelers slotted screwdriver

2. Test Equipment
   - All test equipment will be supplied, however, if you wish to bring your own DMM or VOM it will be acceptable.

OPTIONAL, STUDENTS MAY BRING THEIR OWN TRAINER

National Skills:
The six-hour contest is divided into four sections that are designed to test the contestants’ knowledge of analog and digital circuitry; ability to troubleshoot electronic circuits; ability to construct and test experimental circuits; to design and select circuit components; and to assemble an electronic circuit. In addition, all aspects of the contest test the contestant’s ability to use and calibrate electronic equipment, record and organize data, and demonstrate good safety practices.

State Skills:
Test will include construction of multistage circuit using digital, analog, and discrete components. Safety procedures will be observed.
ROBOTICS AND AUTOMATION CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Blue work pants, as shown
SkillsUSA Massachusetts T-Shirt, provided
Safety shoes
Safety glasses
NO jeans
NO cell phones allowed
Safety: avoid a safety violation or being removed from the contest
NO loose/long hair (must be secured)
NO loose clothing
NO jewelry
NO sneakers

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
The team will require the following equipment and material to complete the competition. The Technical Committee provides most of the required equipment and materials, but the team must bring certain items.

Robotics and Automation Technical Committee provides:
- Speed-controlled conveyor
- Microswitches
- Plastic and metal blocks
- Power strips and Extension cords
- Proximity sensor
- Template storage area
- Task assignment
- Scorbot-ER 4u robot with controller, power supply, cables and Scorbase Pro software

Contest Site provides:
- 3’ x 6’ Tables
- Chairs (2 at each table)
- 110 VAC at each workstation

Teams provide:
- Computer System (Pentium 4 800MHz or higher, 2GB RAM, 2GB free space on hard drive, USB port, CD-ROM drive, Windows XP or Windows 7 with administrative access.)
- Each Team’s computer MUST have a MINIMUM of 2GB of RAM available
- Also, each Team MUST download and install the SCORBASO software before they arrive at the contest site. It can be downloaded from the following link: Scorbase_Robocell_V5335.zip
- When installing the software, please select “SCORBASO for the ER-4u”
- Hookup wire 20-24 awg (3 different colors, 100 feet total)
- Wire Cutters
- Phillips Screw Driver
- Tie wraps
- Templates allowed for Flow Chart
- Multimeter

Notebooks: Each team will be issued a notebook and information packet. This will be a three-ring binder in which the team will complete the documentation of its assigned task.

State Skills:
Teams of two will demonstrate their ability to perform, exhibit, and compile skills and knowledge necessary from the following list of competencies determined by the Robotics and Automation Technology SkillsUSA Technical Committee members. The team will be provided with a written description of the task requirement and a list of the available equipment and material. The team will develop a system layout and robot program, and then demonstrate its product. Upon completion of this task, the team will be given a requirement to refine its system design and again demonstrate its functionality.
A. Perform Analysis of Task
   1. Evaluate written task
   2. Evaluate provided equipment and material
   3. Evaluate system revision

B. Design, Sketching, Planning
   1. Determine sequence of operation
   2. Select equipment and material to meet functional need
   3. Create flow chart
   4. Create layout
   5. Process system revision

C. Implement Design
   1. Develop robot program
   2. Install equipment
   3. Integrate equipment with system controller
   4. Modify system to meet revision requirements

D. System Performance
   1. Perform functional test for total system operation
   2. Present system for evaluation
   3. Perform functional test to meet revision requirements
   4. Present revised system for evaluation

Group Organization and Goals
This is a group competition and all members may interact at will. It is our hope that the competition will run much like actual industry.
   1. The robot programmer will program the robot and peripheral equipment.
   2. The electro-mechanical integrator will install the peripheral equipment and integrate it into the system.
We expect that when a team member has spare time he or she will help the other team member. It is our hope that one person will not dominate a team. It is in no way desirable for one person to do all the work while the other team member merely assists. Each team member must take an active role in this competition. We have taken this course to promote creativity in the organization of production responsibility. All members are responsible for double-checking a team member’s work and quality control.

General Information
1. This competition will be executed using intelitek’s Scorrbor-ER 4u robot, speed-controlled conveyor, and experiment table.
2. Other equipment and material is from local supply sources.
3. Each team will provide one working computer with Windows XP or Windows 7, 2GB RAM, 2GB free space on hard drive. Student or instructor must have administrative access to install robot software (SCORBAS).
4. Teams will consist of two members.

Goals
1. To have every team complete the contest.
2. To have each team member demonstrate reading and writing skills.
3. To have each team member use his or her critical thinking and problem-solving abilities.
4. To have each team member illustrate responsibility, teamwork, and self-management skills.
MOBILE ROBOTICS
CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Blue work pants, as shown Safety shoes Safety glasses
SkillsUSA Massachusetts T-Shirt, provided NO jeans NO cell phones allowed
Safety: avoid a safety violation or being removed from the contest
NO loose/long hair (must be secured) NO loose clothing NO jewelry NO sneakers

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Team Provided Components:

<table>
<thead>
<tr>
<th>Quantity:</th>
<th>Product:</th>
<th>Product Number:</th>
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<tbody>
<tr>
<td>1</td>
<td>VEX EDR V5 Competitor Super Kit</td>
<td>276-6650</td>
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<tr>
<td>unlimited</td>
<td>V5 Smart Cables for connecting motors and sensors only</td>
<td></td>
</tr>
<tr>
<td>unlimited</td>
<td>Zip Ties</td>
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</table>

OR

<table>
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<th>Product:</th>
<th>Product Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vex EDR Cortex V4 Classroom &amp; Competition Super Kit</td>
<td>276-3000</td>
</tr>
<tr>
<td>4</td>
<td>2-Wire Motor 393</td>
<td>276-2177</td>
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<tr>
<td>4</td>
<td>Motor Controller 29</td>
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<td>393 Motor Turbo Gear Set 4 Pack</td>
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<td>1</td>
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<tr>
<td>1</td>
<td>Power Expander</td>
<td>276-2271</td>
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<tr>
<td>unlimited</td>
<td>Extension Cables for connecting motors and sensors only</td>
<td></td>
</tr>
<tr>
<td>unlimited</td>
<td>Zip Ties</td>
<td></td>
</tr>
</tbody>
</table>

VEX items can be purchased from Educational STEM Solutions, LLC with free shipping by contacting mogilvy@e-STEM.com or at our webstore www.e-stem.com or by calling Mike Ogilvy at (603)591-0915

Engineering Notebook Safety Glasses and Work Gloves Imperial Allen Wrench Set
Power strip and extension cord Calculator (standard or scientific) Tape measure or ruler
Hammer Philips and standard screwdriver Metal file
Dremel (or similar) rotary tool with appropriate attachments Drill and drill bits
Aircraft metal snippers for cutting Vex material
A WiFi enabled laptop equipped with licensed Vex programming software and suitable presentation software.

THESE ARE THE ONLY ITEMS ALLOWED IN THE COMPETITION AREA DURING COMPETITIONS:
Pliers Pens and Pencils
Electrical Tape Graph Paper
Scissors Clear Tape
Tap Set Grease or graphite (NON-AEROSOL)
Replacement batteries and chargers Vex competition switch simulator

ALL 7.2V ROBOT BATTERIES MUST BE MADE BY VEX ROBOTICS
9V and AAA can be manufactured by any vendor
Contest Guidelines:
1. Teams must be comprised of two members. **Teams should arrive to competition with robots already constructed.**
2. Teams are given a task that they will solve using a mobile robotic system provided by the technical committee.
3. Each team will have **up to 10 minutes** to present its engineering notebook to the judges.
4. Teams can only use an engineering notebook during the contest as a reference tool in the construction and programming of their robot.
5. The engineering notebook is a tool for students to document their designs prior to the competition. It can include pictures, printed out sections of code, detailed assembly instructions, etc. All pages must be bound and numbered.
6. Robot(s) can only be constructed **with the materials listed.**
7. Teams will have two scored chances to solve the mobile robotic challenge.
8. Once a team has performed the required task or set of tasks, a design change may be introduced.
9. Contestants are required to adhere to industry safety standards using the hardware and software provided.
10. All team members are responsible for double-checking each other’s work and quality control.
11. All engineering notebooks, forms, documentation and programs must be turned in to the judges.
12. All team members and advisors are invited to attend a debriefing session after the competition has concluded.

Standards and Competencies:
Demonstrate knowledge in safety rules and practices
1.1 Maintain a safe work area
1.2 Demonstrate correct use of hand tools
1.3 Follow safety rules during robotic assembly
1.4 Demonstrate proper use of safety equipment
1.5 Define and document all safety issues

Produce technical documentation
2.1 Maintain professional engineering notebook
2.2 Document assembly instructions and illustrations
2.3 Produce Bill of Materials (BOM)
2.4 Document the engineering design process

Apply knowledge of robotic assembly and part identification
3.1 Identify various parts used on a mobile robot (wheels, motors, gears, etc.)
3.2 Identify the various systems in a mobile robot
3.3 Demonstrate the use of various components of a mobile robot
3.4 Demonstrate proper assembly techniques

Understand mechanical systems of a robot
4.1 Understand and identify the various types of gears and their application
4.2 Demonstrate the use of gears on a mobile robot
4.3 Understand and identify the various types of chain and sprocket mechanisms
4.4 Demonstrate proper mechanical component alignment

Wire a mobile robot
5.1 Demonstrate proper wiring techniques
5.2 Maintain and analyze battery voltage
5.3 Understand and use multiple types of mobile robotic sensors
5.4 Understand and differentiate different types of motors and motor controllers

Produce examples of basic computer programming and flowcharting
6.1 Draw a programming flow chart representing a robot program for a given scenario
6.2 Develop a basic computer program to control robot
6.3 Manipulate feedback from robotic sensors in a program
6.4 Demonstrate proper commenting of code in a mobile robot program

Presenting technical information and technical problem solving
7.1 Demonstrate the knowledge of various visual aids used to present technical information
7.2 Present technical material in a professional manner
7.3 Demonstrate proper presentation techniques
7.4 Define team roles and responsibilities
7.5 Demonstrate ability to solve problems as a team in a given time frame
7.6 Demonstrate and document a comprehensive plan to solve an engineering problem
7.7 Use proper time management when solving a problem
7.8 Demonstrate efficient project management and planning

Identify communication protocols for mobile robots
8.1 Understand basic communication protocols for mobile robots
8.2 Demonstrate proper communication techniques in mobile robotics
8.3 Demonstrate proper communication between a transmitter and a robot
URBAN SEARCH & RESCUE CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
- Blue work pants, as shown
- Safety shoes
- Safety glasses
- SkillsUSA Massachusetts T-Shirt, provided
- NO jeans
- NO cell phones allowed
- Safety: avoid a safety violation or being removed from the contest
- NO loose/long hair (must be secured)
- NO loose clothing
- NO jewelry
- NO sneakers

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
1. Supplied by technical committee:
   a. Challenge field: 12’ x 12’ simulated neighborhood
   b. Field elements: components of a residential area and obstacles to traverse, open, and manipulate in order to locate and dispose of simulated explosive ordnances
   c. A command center area equipped with a table, two chairs, and a video monitor
   d. General workspace for each team designated as a “pit” area, including one table, two chairs, and access to a 120-volt electrical supply
2. Supplied by the contestant:
   a. Safety equipment — eye protection is required at all times in the contest area
   b. Laptop computer (optional for technical presentation purposes only. Laptop not used for robot operation)
   c. Fully assembled, tested, and operational ordnance disposal robot conforming to the guidelines and parts restrictions listed in this document (see “Urban Search and Rescue Challenge Kit Bill of Materials” in Appendix)
   d. Team number affixed to robot
   e. Presentation software for oral presentation to judges (optional)
   f. CAD/CAM software for blueprint design (optional)
   g. Completed Engineering Notebook (Note: Technical drawing/blueprint of robot drive chassis must be included in notebook)
   h. Pens, pencils and paper
   i. Tools:
      - Allen wrench set (English)
      - Power strip
      - Hammer
      - Wire strippers (one set)
      - 4” nylon wire ties (25 pack)
      - Metal-cutting hacksaw (manual)
      - Pliers (needle nose or regular)
      - Clamping vise
      - Calculator
      - Metal file
      - Wire cutters/snips (one set)
      - Multimeter
      - Cordless drill with charger
      - Set of box wrenches
      - Tape measure
      - Flat-head and Phillips-head screwdrivers
      - Roll of electrical tape
      - Multinut pliers
      - Set of standard drill bits

Event
The 2019 Robotics: Urban Search & Rescue Challenge: Explosive Ordnance Disposal (EOD) enables students to create a mobile robot like those employed by emergency service personnel (fire, police, military). The robot is designed to secure an area by locating, neutralizing, moving, and disposing of explosive materials. The demand for designers, skilled technicians, and manufacturing workers who are fluent in mechanical design and electrical systems and highly skilled in troubleshooting and maintenance of robotic systems is projected to continue to grow. The current generation of students is expected to take artificial intelligence and robotics into the evolving world of emergency services, finding new ways to help trained personnel react more quickly and effectively. Therefore, it is imperative that our future labor force be on the leading edge of current and emerging technologies and possess the technical and team skills necessary to maintain industry leadership in design, manufacture, maintenance, and operation of life-saving robotic equipment.
Approved Materials: Approved robot materials and quantity to be used:

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>4” wheel</td>
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<tr>
<td>16T sprocket</td>
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<td>24T Sprocket</td>
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</tr>
<tr>
<td>Chain w/Link</td>
<td>1</td>
</tr>
<tr>
<td>Chain Breaker</td>
<td>1</td>
</tr>
<tr>
<td>L Bracket</td>
<td>6</td>
</tr>
<tr>
<td>Flat Building Plate</td>
<td>2</td>
</tr>
<tr>
<td>Flat Bracket</td>
<td>6</td>
</tr>
<tr>
<td>2” Standoff Post</td>
<td>12</td>
</tr>
<tr>
<td>1” Standoff Post</td>
<td>12</td>
</tr>
<tr>
<td>Gear Hub Spacer</td>
<td>10</td>
</tr>
<tr>
<td>Single Servo Bracket</td>
<td>2</td>
</tr>
<tr>
<td>100 mm Axle</td>
<td>12</td>
</tr>
<tr>
<td>DC Drive Motor</td>
<td>2</td>
</tr>
<tr>
<td>1/8” Axle Spacer</td>
<td>24</td>
</tr>
<tr>
<td>3/8” Axle Spacer</td>
<td>6</td>
</tr>
<tr>
<td>Gear Hub Spacer</td>
<td>10</td>
</tr>
<tr>
<td>Motor Hub</td>
<td>2</td>
</tr>
<tr>
<td>288 mm Channel</td>
<td>6</td>
</tr>
<tr>
<td>160 mm Channel</td>
<td>4</td>
</tr>
<tr>
<td>96 mm Channel</td>
<td>4</td>
</tr>
<tr>
<td>32 mm Channel</td>
<td>6</td>
</tr>
<tr>
<td>Camera Pack</td>
<td>1</td>
</tr>
<tr>
<td>Motor Speed Controller</td>
<td>1</td>
</tr>
<tr>
<td>1/2 SHCS</td>
<td>200</td>
</tr>
<tr>
<td>Hex Keys</td>
<td>1</td>
</tr>
<tr>
<td>Zip Tie Pack</td>
<td>20</td>
</tr>
<tr>
<td>Kep Nut</td>
<td>200</td>
</tr>
<tr>
<td>3/8” BHCS</td>
<td>50</td>
</tr>
<tr>
<td>NiMH Battery Charger</td>
<td>1</td>
</tr>
<tr>
<td>288 mm Flat Bar</td>
<td>4</td>
</tr>
<tr>
<td>Servo Pivot w/Bearing</td>
<td>1</td>
</tr>
<tr>
<td>80T Gear</td>
<td>2</td>
</tr>
<tr>
<td>40T Gear</td>
<td>2</td>
</tr>
<tr>
<td>Electronics Deck</td>
<td>1</td>
</tr>
<tr>
<td>Lid</td>
<td>1</td>
</tr>
<tr>
<td>Top Card</td>
<td>1</td>
</tr>
<tr>
<td>Side Label Sticker</td>
<td>1</td>
</tr>
<tr>
<td>900 MHz Camera 19-volt Adaptor</td>
<td>1</td>
</tr>
</tbody>
</table>

Control System: 2.4 GHz 6ch R/C Controller

Camera Specifications:
- Camera Sensor Type: CMD
- Camera Viewing Angle: 170 degrees
- Camera Reverse Image: Selectable
- Transmitter Voltage: 12 VDC
- Transmitter Frequency: 2400-2483 MHz
- Receiver Voltage: 12 VDC
- Receiver Frequency: 2400-2483 MHz

Additional parts and raw materials legal for use:
1. TETRIX Building System parts (http://www.pitsco.com/Robotics_Urban_Search_and_Rescue_Challenge_Kit, 800-835-0686, or competitions@pitsco.com)
2. Other robot parts similar in size and design to Urban Search & Rescue Challenge Kit materials
3. (1) 12” x 24” sheet of acrylic plastic, maximum thickness of 0.250”
4. (1) 12” x 24” sheet of aluminum, maximum thickness of .080”
5. 3D-printed parts of original design
6. Raw material used for fabricating custom robot parts

Massachusetts State Competition Requirements: **No Pneumatics or air compressors allowed**

Teams should arrive to competition with robots already constructed.

Purpose: To evaluate team members’ skills and preparation for employment in fields related to and including robotics, engineering, automation, manufacturing, electronics, and emergency services. To recognize outstanding performance by participants in scenarios that require problem solving and teamwork in a real-world situation.
State Skills:
This portion of the contest will entail a knowledge exam. Competencies evaluated on the written portion will be general principles used in robotics. There will be a 30-minute limit for the written test.

Challenge Overview
A two-member team builds its robot and arm mechanism prior to the competition and then, during the competition, remotely operates the robot, which should be capable of locating, grabbing and moving simulated ordnances on the challenge course. This remotely operated vehicle (ROV) must traverse the course, locate the ordnances, secure them and properly dispose of them. Each team will perform one round of competition consisting of a time-limited mission to locate and dispose of two ordnances.

- During the mission, each team must complete several procedures specified in the rules provided at the event.
- The mission will be limited to six minutes.
- Each two-member team will work from a command center to remotely operate its robot to carry out the mission. The command center will be equipped with a monitor displaying the video feed from an onboard wireless camera system attached to the robot. The robot will begin the challenge course from a starting point. The timed mission starts when the robot begins to move and ends when the robot drops the last ordnance into the containment unit, or when time runs out.

Contest Field
12’ x 12’ simulated residential area
Features of neighborhood:
- Starting point from which robot deploys
- Containment boundaries marking the 12’ x 12’ challenge area
- Objects often found in a neighborhood setting: home, street, grass, mailboxes

Note: Ordnances are randomly and strategically positioned on the challenge course in locations that require a robot to open doors and reach for and grab items to deliver them to a safe disposal site. Some ordnances may be located outside a direct line of sight from the command center, in which case tele-op capabilities will be put to use.

Command Center
The command center will be located within view of the contest field and equipped with a table, two chairs, and a video monitor.

Pit Area
A pit area where teams modify their robots and arm mechanisms will be provided. Each team will have a conference table, two chairs, and access to a 120-volt electrical outlet.

Note: Cameras must remain off while in the pit area to minimize the chance of interference for the team actively driving the course.

Challenge Checklist
1. Purchase robot challenge kit.
2. Design and build robot and arm mechanism within specifications that is capable of grabbing, holding, and moving objects. Document process and blueprints in Engineering Notebook.
3. Practice driving robot on various types of terrain while looking at a video monitor displaying the feed from the onboard camera.
4. Review basic mechanical, robotics, and electrical knowledge in preparation for written test.
5. Plan, prepare, and practice presentation.
6. Attend local, regional, state, and national Urban Search & Rescue Challenge competitions.
Recommended Content for Urban Search & Rescue Challenge Kit

The Urban Search & Rescue EOD robot may be built using only components that comprise the Urban Search & Rescue Challenge Kit and/or other approved parts listed in the Appendix. Each kit contains everything necessary to construct a basic robot for the Urban Search & Rescue Challenge competition. Upon registering for the event, teams may purchase an Urban Search & Rescue Challenge Kit.

Each TETRIX®-based Urban Search & Rescue Challenge Kit contains:

a. Metal construction elements for fabricating a robot chassis
b. Metal construction elements for fabricating an arm mechanism
c. Tools for construction
d. Control system and power electronics of a 2.4 GHz R/C transmitter (up to 6 channels), receiver, DC motor controller, rechargeable battery pack, and charger
e. Hookup diagrams and troubleshooting tips

Notes: Any off-the-shelf robotics building platform may be used for this event, as long as the robot complies with all parts restrictions (see list) and is operated by remote control; autonomously controlled robots will be disqualified. Any wireless camera system with a camera mounted to the robot and video display is allowed. A video monitor/TV with RCA inputs will be supplied by the Technical Committee for the purpose of displaying the team’s video feed in the command center. A bill of materials for the Urban Search & Rescue Challenge Kit and a list of approved optional parts and raw materials can be found in the Appendix.

Sample Event Agenda

Following is a sample agenda for an Urban Search & Rescue Challenge event.

1. Orientation and Testing: Teams will bring robots for inspection and Engineering Notebooks for judging. The written test will be administered (30 minute limit for written test).
2. Robot and Engineering Notebook inspection by judges (items then returned to teams)
3. The following can be done simultaneously if the number of event personnel permits:
   a. Teams complete technical presentation (oral and physical) over robot, Engineering Notebook, and arm mechanism (following presentation, items will remain in judges’ possession until challenge field competition).
   b. Final robot and arm mechanism inspection by judges
4. Time trials conducted
5. Lunch
6. Challenge field competition conducted

Contest Guidelines

Note: Guidelines and rules are subject to change.

1. Each team must be composed of two members. If a team member is absent, the lone team member will be allowed to compete but a 30 point penalty will be applied to the overall score.
2. Each robot must have an identification label with the team’s number listed.
3. Each technical presentation should last a maximum of five minutes and should be primarily oral, with supporting materials of printed or electronic media and physical models. Students should be prepared to discuss the roles they played, their robot design, and the functions of their robot. (Note: The Technical Committee will not provide projector, screen, or other presentation equipment.)
4. Before attending the competition, team members should design, build, and experiment with robots constructed from the SkillsUSA Urban Search & Rescue Challenge Kit. Additional TETRIX or other approved parts and raw materials (see Appendix) may also be used. The prebuilt robot and arm mechanism will be required to grab, hold, and move objects during the mission.
5. The robot’s arm mechanism must be capable of opening a standard-size mailbox and reaching into the box up to five (5) inches, grabbing the simulated ordnance, and pulling it out of the mailbox. The arm mechanism must be capable of reaching items positioned up to nine (9) inches above the floor.
6. The simulated ordnances (wooden block, right) are not included in the competition kit and are approximately 2.7 inches cubed and weigh 4.3 ounces. The handles on doors and mailboxes (far right) are 3.3 inches long and .41 of an inch wide.

7. **Part Restrictions:**
   a. Limit of **eight** motors/servos per competing robot
   b. Maximum of **one** transmitter/remote
   c. **One** rechargeable battery pack for drivetrain motor power, maximum 12V 3,000 mAh.
   d. **Wireless camera system** that must be mounted on robot
   e. Robot must fit into an 18” x 18” x 18” space when starting but may be expanded to a larger size during the challenge.

8. Each team must provide in its Engineering Notebook a **technical drawing or blueprint** detailing the construction of its robot drive chassis and additional drawings/blueprints for its associated arm mechanism.

9. The robot and arm mechanism must be **assembled by the team prior to the competition**.

10. All robots will be required to **pass inspection** by judges to determine if all of the parts used are from the list of allowed parts. Any team whose robot fails inspection will be disqualified if proper modifications have not been made within 10 minutes.

<table>
<thead>
<tr>
<th>Pass</th>
<th>Fail</th>
<th>Rule/Guideline</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robot fits in size limitation of 18” L x 18” W x 18” H.</td>
<td>Robot does NOT contain components that will intentionally detach on playing field.</td>
<td>Team name/number is attached and visible on robot.</td>
<td></td>
</tr>
<tr>
<td>Robot does NOT contain any components that could damage the playing field.</td>
<td>Robot does NOT contain any parts that are sharp, jagged, or pointed.</td>
<td>Robot poses NO obvious unnecessary risk of entanglement with any element on the playing field.</td>
<td></td>
</tr>
<tr>
<td>Robot contains a total of no more than eight DC motors, servo motors, or a combination thereof.</td>
<td>Robot contains only ONE transmitter/controller and receiver.</td>
<td>Robot contains only ONE 12V 3,000 mAh battery for drive train.</td>
<td></td>
</tr>
<tr>
<td>Robot wiring MUST be secured to chassis, free and clear of any moving parts to avoid entanglement while competing.</td>
<td>Robot battery pack(s) MUST be securely fastened to robot’s chassis away from sharp edges, corners, screws, and moving parts.</td>
<td>Robot MUST contain a securely fastened wireless camera.</td>
<td></td>
</tr>
<tr>
<td>Robots using chain and sprocket or tank treads MUST have sufficient slack in the chain and/or tank treads.</td>
<td>Robot is built from ONLY approved materials listed in Appendix A of the current Urban Search and Rescue Technical Standards.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Robots will not be allowed to compete with an arm mechanism that poses **danger** to competitors or could potentially cause damage to the challenge field.

12. Accuracy of the robot’s **construction matching the blueprint** will be considered during scoring. All necessary parts and tools for construction must be brought to the competition site.

13. Team members will be required to follow proper safety procedures and use eye protection.

14. Teams may bring a **laptop computer and blueprint drawings** of their robot and arm mechanism designs to the contest building area. A description of the assembly process is required to be within the Engineering Notebook. The designs also may be printed or hand-drawn copies.

15. Teams **may view the challenge course** prior to the beginning of competition and may watch other competing teams during the challenge event.
Engineering Notebook
The Engineering Notebook will be submitted for judging at check-in. Required elements include:

1. Overall neat and professional appearance
2. A complete bill of materials for the robot drive chassis and arm mechanism designed and used in competition at the event
3. A detailed description of the assembly process for the robot drive chassis and arm mechanism
4. Illustrations, sketches, photos, and written log entries accurately documenting the design and prototyping iterations detailing the evolution and logical progression of the robot’s design
5. Explanations noting how testing was conducted, why modifications were made, skills learned, and how robot might further be modified to improve performance and achieve desired objectives if no restrictions were in place

Scoring

<table>
<thead>
<tr>
<th>Component</th>
<th>Possible Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robot Drive Chassis</td>
<td>150</td>
</tr>
<tr>
<td>Arm Mechanism and Gripper</td>
<td>150</td>
</tr>
<tr>
<td>Engineering Technician Notebook</td>
<td>200</td>
</tr>
<tr>
<td>Technical Presentation</td>
<td>150</td>
</tr>
<tr>
<td>Challenge Field Skills</td>
<td>250</td>
</tr>
<tr>
<td>Written Test</td>
<td>100</td>
</tr>
<tr>
<td>Team Total</td>
<td>1,000</td>
</tr>
</tbody>
</table>

No Resume: 50 point penalty
No Safety Glasses: 50 point penalty
Team Member Absent: 30 point penalty

Challenge Course Rules

*Note:* Team members must wear safety glasses at all times while they are in the competition area! All teams will be expected to adhere to the official rules for the Urban Search & Rescue Challenge competition and compete in a positive and professional manner.

1. A time trial must be completed prior to the timed mission. The ordnance will be placed in a specified location on the course and the route traveled to retrieve and dispose of the ordnance must be identical for all teams. This route will be determined by the event chairperson. The fastest time will be awarded a 50-point bonus; the second-fastest time will be awarded a 30-point bonus.
2. At the competition site, the simulated residential area will be provided and maintained by the technical committee. During competition, the course will be reset to its original state before each team competes. The ordnance pieces will be randomly placed before each team competes.
3. The Urban Search & Rescue Challenge: Explosive Ordnance Disposal event will consist of a time trial and a single timed mission for each team. During the mission, the robot has up to six minutes to navigate the course, complete the challenge, and return to home base.
4. Each team will operate its mobile robot and navigate by line of sight and by the video feed from an onboard wireless camera. The command center will be within view of the playing field, and team members must remain seated at the command center while competing.
5. An official will be in charge of placing the team’s robot at the starting point on the challenge course. (Reminder: The robot must fit within an 18” x 18” x 18” space at the start but may expand to any size after it enters the neighborhood.)
6. After a “clear” signal is issued by a challenge course official, time will begin as soon as the robot moves. Following completion of a mission, time will stop upon successful return to home base following disposal of two simulated explosive ordnances.
7. Robots should remain on roads and paths within the neighborhood to avoid property damage. Shortcuts are not allowed and will result in penalties.
8. The mission will last a maximum of six minutes.
9. Team members are not allowed to touch their robot at any time while a mission is in progress, unless instructed to do so by a judge.
10. The containment unit where the ordnance pieces are placed by the robot after removal from the course must remain outside the field of play and as close to the starting position as possible. Any team that deliberately moves the containment unit from its starting point will be penalized.
11. An official will award points for the team’s mission based on the official “Challenge Field Skills” rubric.

### Challenge Field Skills

<table>
<thead>
<tr>
<th>Objective</th>
<th>Time:</th>
<th>Points Performance Level</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Challenge Course Mission: Ordnance retrieval and containment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robot became disabled on the course and could not continue.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robot did not find any of the ordnances.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robot found at least one of the ordnances but was unable to retrieve and dispose of it.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robot was able to find both of the ordnances but not dispose of one of the ordnances.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robot was able to retrieve and dispose of one of the ordnances.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robot was able to retrieve but not dispose of the second ordnance within the allotted time.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robot was able to retrieve and dispose of both of the ordnances within the allotted time.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Point Deduction Worksheet

<table>
<thead>
<tr>
<th>Infraction</th>
<th>Number of Incidents</th>
<th>Points to Deduct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of ordnance</td>
<td></td>
<td>5 points per incident</td>
</tr>
<tr>
<td>Vehicle stalled; official asked to help</td>
<td></td>
<td>5 points per incident</td>
</tr>
<tr>
<td>Robot intentionally outside of boundaries</td>
<td></td>
<td>25 points per incident</td>
</tr>
</tbody>
</table>

**Deduction Total**

(insert into main scoring rubric)

### Total Time

<table>
<thead>
<tr>
<th>Time Trial Bonus</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Place Time . . . . . . . 50 points</td>
</tr>
<tr>
<td>2nd Place Time . . . . . . . . 30 points</td>
</tr>
</tbody>
</table>

**Challenge Field Points (subtotal)**

**Deduction Total**

(from Point Deduction Worksheet)

**Challenge Field Point Total**

---

**Penalties**

1. A deduction will be assessed each time an ordnance is dropped.

2. Each time the robot stalls or becomes hung up and has to be freed by an official, a deduction will be assessed. An official will free a robot only at the request of a team member, but a deduction will be assessed.

3. A deduction will be assessed whenever a robot goes off the designated path within the neighborhood or outside of the course boundaries. Shortcuts are not allowed.

TRANSPORTATION SERVICE
TRADES A

SERIES DIRECTOR:
JEREMY GUAY

CONTACT INFORMATION:
BAY PATH RVTHS
57 MUGGETT HILL ROAD
CHARLTON, MA 01507
(508) 248-5971
jguay@drregional.org

EVENTS:

AUTOMOTIVE REFINISHING
Briefing: Salon B
Competition: Blackstone - Auto Body Shop 220C, 223C
Event Manager: Ken Robbins

COLLISION DAMAGE APPRAISAL (Limited Demo)
Briefing: Salon B
Competition: Blackstone - P&D Shop 060B
Event Manager: TBA

COLLISION REPAIR TECHNOLOGY
Briefing: Salon B
Competition: Blackstone - Auto Body Shop 220C, 223C
Event Manager: Jim Marshall

POWER EQUIPMENT TECHNOLOGY
Briefing: Salon B
Competition: Blackstone - QCC Area 230C
Event Manager: Bill Hazeldine
AUTOMOTIVE REFINISHING TECH.

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
- Blue work pants, as shown
- Leather work boots
- Safety glasses with side shields or goggles
- NO jeans
- NO cell phones allowed
- NO loose/long hair (must be secured)
- NO loose clothing
- NO jewelry
- NO sneakers

SkillsUSA Massachusetts T-Shirt, provided

Safety: avoid a safety violation or being removed from the contest

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- Paint suite
- Tack rags
- Air pressure gauge (spray gun)
- DA pad wrench
- Hook-it and sticky back DA pads
- DA sander
- Sanding blocks
- 1/2"-7/8" wrench set
- Sanding pads
- Calculator
- Red, gray, and white scuff pads
- Air blow gun
- Adjustable Wrench
- Cartridge-type respirator (charcoal-filtered) for mixing, not spraying
- Painting respirator
- Any assorted tools that the contestant may feel they could need. Contestants will not be able to borrow any tools from the hosting school.
- Resume along with their portfolios (students name and school should not be present on their resume)
- Spray guns (Advisors/Contestants should make sure the air nipples attached to their air tools will work with host site equipment)
- Students will be required to wear fresh air supplied hoods for the painting portion of the contest. These will be provided.

State Skills:
The competition requires contestants to do metal work-welding including MIG welding, structural damage analysis and alignment of body and frame, estimation of damaged automobile, plastic identification and repairs. Contestants are judged on the overall appearance of the finished product, speed, and proper safety practices. Contestants will be required to remain in their testing area until judges direct them to their next assigned contest area.

Contestants can be and will be disqualified immediately for any communication with people outside of the contest perimeters or any use of cell phones or other prohibited electronic devices. Contestants will be disqualified immediately for any safety violation that the judges/Series Director/Board Member deems places the contestant and or others in danger of injury.

The contest is defined by the current industry technical standards. The contest is divided into six portions: a written ASE exam, an interview, a manually written estimate, and a series of workstations. Contestants will demonstrate their abilities to perform tasks selected from the following list of competencies as determined by the Skills USA Championship technical committee.

Skill Areas of Competition:
- Prep. Entire panel for BC/CC
  - 1.25 hrs. Perform proper sanding techniques and final sand for sealer application in relationship to task. Judge is looking for contestant’s safety, proper use of tools, metal straightening, use of filler material, techniques and overall final appearance. NOTE: Should student prepare panel/fender for primer
- Buffing
  - 45 minutes. A painted panel to be colored sanded with appropriate sand paper for buffing. Using the correct material to achieve a high gloss finish. Judge is looking for contestant’s safety, proper use of tools, equipment, supplies, as well as the overall finished product.
Masking of vehicle
45 minutes. Appropriate masking techniques for refinishing fender and blending into adjacent panel application in relationship to tasks. Judge is looking for contestant’s safety, mask and protecting of panels not to be refinished, mask door jambs and other aperture panels.

Paint test/Interview
45 minutes. ASE style test, with portfolio students name and school should not be present on their portfolio. Judge is looking for contestant’s ability to communicate with the judge, good eye contact, fill out job application legibly.

Tinting/Color matching
45 minutes. Complete color assessment in relationship to the task. Selecting the correct toner for color within the formula. Judge is looking for contestant’s ability to determine adjustment that must be made, ability to select the correct toner, ability to follow set directions.

Estimating/Paint ID
1.25 hrs. Proper vehicle ID, estimate written legibly, list parts in logical sequence, time involved repairing, parts material cost, estimate completed final figure. Locate and document vehicle manufacturer’s paint code application in relationship to tasks. Identify the code using paint manufacturer manuals. Judge is looking for contestant's safety, Vehicle I.D., estimate written legibly, list of parts in logical sequence, time involved in repairing, parts and material cost, estimate completed final figure. Accurate location of paint ID and ability to look code up in manufacturer’s manual.

Contestants 1-3
8:30 AM Briefing
8:45 AM Estimating/Paint I.D.120
10:15 AM Tinting/Color matching including mixing
10:50 PM Buffing 40
11:30 PM Bagging of vehicle
11:30-12:00 Holding Room
12:00-12:30 PM Lunch
12:35 PM Bagging of vehicle
1:15 PM Interview
1:55 PM Prep. Entire panel for BC/CC
3:10 PM DONE

Contestants 7-9
8:30 AM Briefing
8:40 AM Bagging of vehicle
9:25 AM Tinting/Color matching including mixing
10:10 AM Prep. Entire panel for BC/CC
11:35-12:00 Holding Room
12:00-12:30 PM Lunch
12:30 PM Estimating/Paint I.D.
1:55 PM Interview
2:45 PM Buffing
3:25 PM DONE

Contestants 4-6
8:30 AM Briefing
8:40 AM Prep. Entire panel for BC/CC
10:05 AM Buffing
10:45 PM Bagging of vehicle
11:25 Holding Room
12:00-12:30 PM Lunch
12:35 PM Interview
1:15 PM Tinting/Color matching including mixing
1:55 PM Estimating/Paint I.D.
3:10 PM DONE

Contestants 10-12
8:30 AM Briefing
8:40 AM Tinting/Color matching including mixing
9:25 AM Bagging of vehicle
10:10 AM Estimating/Paint I.D.
11:35-12:00 Holding Room
12:00-12:30 PM Lunch
12:30 PM Prep. Entire panel for BC/CC
1:55 PM Buffing
2:45 PM Interview
3:25 PM DONE
COLLISION DAMAGE APPEAL CONTEST
(LIMITED DEMO)

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: Failure to do so will result in a clothing penalty
Blue work pants, as shown
Leather work boots
SkillsUSA Massachusetts T-Shirt, provided
NO jeans
Safety glasses with side shields or goggles
NO cell phones allowed
NO loose/long hair (must be secured)
NO loose clothing
NO jewelry
NO sneakers

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty

Supplied by the technical committee: Basic equipment of a collision damage appraisal and total loss evaluation laboratory
a. Materials for computerized estimating segment:
   i. Automated Estimating System (See SkillsUSA website for details on which estimating systems will be used annually).
   ii. Digital Camera or tablet with imaging capabilities.
   iii. Printer networked to estimating systems and digital camera and Wi-Fi Capability.
   iv. Damaged vehicles for the frontal damage estimate, quarter panel damage estimate and the total loss evaluation
b. Materials for Total Loss Evaluation:
   i. A vehicle that is an obvious total loss
   ii. Total Loss evaluation Software or paper equivalent (See SkillsUSA website for details on which Total Loss and valuation systems will be used annually)
   iii. Digital Camera
   iv. Vehicle evaluation guide (See SkillsUSA website for details on which vehicle evaluation systems will be used annually)
   v. Conditioning Matrix
c. Materials for handwritten estimating phase:
   i. Vehicle owner’s name and address
   ii. Scratch pads
   iii. Estimate sheets
   iv. Estimate books
   v. Calculator
   vi. Parts price list for car involved

Note: Check the Contest Guidelines and/or the updates page on the SkillsUSA website: updates.skillsusa.org.

Contestants can be and will be disqualified immediately for any communication with people outside of the contest perimeters or any use of cell phones or other prohibited electronic devices. Contestants will be disqualified immediately for any safety violation that the judges/Series Director/Board Member deems places the contestant and or others in danger of injury.

Purpose:
To evaluate each contestant’s preparation for employment and to recognize outstanding students for excellence and professionalism in the field of collision damage appraisal and total loss evaluation. First, download and review the General Regulations at: updates.skillsusa.org.

Eligibility:
Open to active SkillsUSA members enrolled in programs with collision damage appraisal and total loss evaluation as an occupational objective.
Scope of Contest:
The contest will be consistent with the Collision Repair/Refinishing Technician Task List outlined in the guidelines published by the National Institute for Automotive Service Excellence (ASE) and the National Technicians Education Foundation (NATEF), www.natef.org. Contestants will demonstrate their ability to perform jobs of skills selected from the standards mentioned above as determined by the SkillsUSA Championships technical committee. National Committee membership includes: ABRA, ASE, Audatex, Caliber Collision, CCC, Collision Repair Education Foundation (CREF), GEICO, Gerber Collision & Glass, Insurance Auto Auction (IAA), and State Farm Ins.

Knowledge Performance:
The contest includes a written knowledge test given by ASE, which will consist of 50 questions covering the areas of the Damage Analysis & Estimating that are identified in the NATEF Collision Repair/Refinishing Program Standards and the ASE Official Study Guide: Collision Repair/Refinish, an estimating test the tests for the high school and college contests will be comprised of diagnosis and repair content from this skill area:

1. Damage Analysis – 12 questions that cover tasks necessary to analyze vehicle damage.
2. Estimating – 13 questions that cover the tasks necessary to estimate vehicle damage.
3. Legal and Environmental Practices – 2 questions that cover the tasks associated with legal and environmental practices.
4. Vehicle Construction – 7 questions that cover the tasks associated with vehicle construction.
5. Vehicle Systems Knowledge - 8 questions that cover tasks to identifying vehicle systems.
6. Parts and Source Identification – 6 questions that cover the tasks for parts and source identification
7. Customer Relations and Sales Skills – 2 questions that cover the tasks associated with customer relations and sales skills.

Skill Performance:
Contestants will demonstrate their ability to perform jobs and skills based on the task list outlined by the National Institute for Automotive Service Excellence (ASE) and the National Automotive Technicians Education Foundation (NATEF). The competition includes a series of competencies to assess skills in the following areas: Handwritten Estimate preparation using paper manuals, two computerized estimates/appraisals on frontal damage including unibody damage and light mechanical damage and rear damage including quarter panel replacement, “Virtual” estimate prepared from images assessing virtual (remote) estimating skill and a total loss vehicle inspection report and vehicle evaluation including digital images associated with all computerized estimating and total loss evaluation. The competitors will also participate in an interview contest. The overall accuracy and quality of the finished products, speed and proper safety practices will be judged.
COLLISION REPAIR
CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Blue work pants, as shown
Leather work boots
SkillsUSA Massachusetts T-Shirt, provided
Safety glasses with side shields or goggles
NO jeans
NO boot allowed
NO loose clothing
Safet y glasses with side shields or goggles
NO loose clothing
NO cell phones allowed
NO sneakers

Skill Areas of Competition
Metal Working: 1 ½ hrs. (Have a fender with E coat only/no paint). One dent to be worked out without the use of filler, one dent to be repaired using only body filler. Prepare panel (fender) for primer. Judge is looking for: Safety, proper use of tools, metal straightening, use of filler material, techniques and overall final appearance.
Frame Analysis: 45 minutes. The following gauges may be used: Tram & Self Centering gauges. Judge is looking for: Safety, steering geometry and alignment, use of frame/body manuals, body measurements, describe damage on paper, draw out what you see.
MIG Welding: 45 Min. Plug weld, stitch weld, continuous weld (vertical weld and flat weld). Welders that will most likely be used Miller’s 175 and 160’s with .23 wire. Judge is looking for: Safety, good penetration of weld, proper set up of and tuning of the machine.
Estimating: 45 Min. Must be able to identify five types of vehicle damage, and prepare a hand written estimate. Judge is looking for: Vehicle identification, estimate written legibly, list of parts in logical sequence, time involved in repairing, parts and material cost, estimate completed with final figure.
Job Interview: 15 Min. (with portfolio and resume) Judge is looking for: The ability to communicate with the judge, good eye contact, fill out a job application legibly and completely.
Contestants can be and will be disqualified immediately for any communication with people outside of the contest perimeters or any use of cell phones or other prohibited electronic devices. Contestants will be disqualified immediately for any safety violation that the judges, Series Director, Board Member deems places the contestant and or others in danger of injury.

Contestants 1-3
8:30 AM  Briefing
8:40 AM  Metalworking
10:00 AM  Job Interview
10:50 PM  Frame Analysis
11:35 PM  Holding Room
12:05-12:35 PM  Lunch
12:40 PM  Estimating
2:00 PM  MIG Welding
2:50 PM  Plastic Repair on damaged bumper cover
4:05 PM  DONE

Contestants 4-6
8:30 AM  Briefing
8:40 AM  Plastic Repair on damaged bumper cover
10:00 AM  Job Interview
11:05 AM  Frame Analysis
11:55 AM  Holding Room
12:05-12:35 PM  Lunch
12:40 PM  MIG Welding
1:30 PM  Estimating
2:50 PM  Metalworking
4:05 PM  DONE

Contestants 7-9
8:30 AM  Briefing
8:40 AM  Frame Analysis
10:00 AM  MIG Welding
10:50 AM  Plastic Repair on damaged bumper cover
12:00 PM  Holding Room
12:05-12:35 PM  Lunch
12:40 PM  Metalworking
2:05 PM  Estimating
3:20 PM  Job Interview
4:05 PM  DONE

Contestants 10-12
8:30 AM  Briefing
8:40 AM  MIG Welding
9:30 AM  Estimating
10:50 AM  Metalworking
12:05-12:35 PM  Lunch
12:40 PM  Plastic Repair on damaged bumper cover
2:05 PM  Job Interview
2:55 PM  Frame Analysis
4:05 PM  DONE
POWER EQUIPMENT TECHNOLOGY CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Blue work pants, as shown  Leather work boots  Safety glasses with side shields or goggles
SkillsUSA Massachusetts T-Shirt, provided  NO jeans  NO cell phones allowed
Safety: avoid a safety violation or being removed from the contest
NO loose/long hair (must be secured)  NO loose clothing  NO jewelry  NO sneakers

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
1. Supplied by the technical committee:
   a. All necessary engines, engine parts, work stations, test stands, power equipment, gasoline, oil and all basic hand tools as well as necessary specialty tools.
   b. Industry manuals, including service and repair instruction manuals.
2. Supplied by the contestant:
   a. All competitors must create a one-page typed resume to be turned in at the time of the contest orientation.
   b. Contestants must provide a portfolio (without the school or contestants name) at the time of the interview. (Portfolios will be returned at the end of the contest).

State Skills:
The competitions purpose is to evaluate each contestant’s preparation for employment and recognize outstanding students for excellence and professionalism in engine and equipment diagnostics, overhaul and repair of both liquid and air-cooled engines. It will also evaluate the ability to troubleshoot and possibly overhaul the power train components of a piece of powered equipment and/or machinery.

Contestants can be and will be disqualified immediately for any communication with people outside of the contest perimeters.

Score Sheet:

<table>
<thead>
<tr>
<th>Items Evaluated</th>
<th>Point Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Test</td>
<td>10</td>
</tr>
<tr>
<td>Parts I.D.</td>
<td>75</td>
</tr>
<tr>
<td>Customer Service Job Quote</td>
<td>100</td>
</tr>
<tr>
<td>Failure Analysis</td>
<td>150</td>
</tr>
<tr>
<td>Precision Measurements</td>
<td>150</td>
</tr>
<tr>
<td>4-cycle service</td>
<td>150</td>
</tr>
<tr>
<td>Interview/Portfolio</td>
<td>10</td>
</tr>
<tr>
<td>Explain how engines operate (2-cycle air cooled and 4-cycle)</td>
<td>175</td>
</tr>
</tbody>
</table>
TRANSPORTATION SERVICE TRADES B

SERIES DIRECTOR:
EDWARD (TED) FOOS

CONTACT INFORMATION:
UNIVERSAL TECHNICAL INSTITUTE
ONE UPLAND ROAD, BLDG. 200
NORWOOD, MA 02062
(401) 663-1984
efoos@uti.edu

EVENTS:

AUTOMOTIVE SERVICE TECHNOLOGY
Briefing: Salon B
Competition: Blackstone - Automotive Shop—230C, Holding Room 231C
Event Manager: George Sadowski

DIESEL EQUIPMENT TECHNOLOGY
Briefing: Salon B
Competition: Milton CAT, Milford, MA
Event Manager: Ronald N. Barton

MARINE SERVICE TECHNOLOGY
Briefing: Salon B
Competition: Blackstone - Off Machine Tech 139D
Event Manager: TBA
AUTOMOTIVE SERVICE TECHNOLOGY CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
- Blue work pants, as shown
- Leather work boots
- Safety glasses with side shields or goggles
- SkillsUSA Massachusetts T-Shirt, provided
- NO jeans
- NO cell phones allowed
- NO loose/long hair (must be secured)
- NO loose clothing
- NO jewelry
- NO sneakers

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- 2 - #2 Lead pencils with eraser
- All other tools and equipment will be supplied.

Scope of Contest:
The contest will be consistent with the automobile technician task list outlined in guidelines published by the National Institute for Automotive Service Excellence (ASE) and the National Automotive Technicians Education Foundation (NATEF) at: www.natef.org. General shop safety rules will be followed. In addition, contestants will be judged on general shop skills, problem-solving skills and shop safety. Points allowed will be assigned by the technical committee based on the difficulty of the assigned task. Contestants will demonstrate their ability to perform jobs or skills selected from the standards mentioned above as determined by the state technical committee.

Skill Performance:
The contest will include a series of workstations. Workstations consist of a vehicle and/or simulators, components, service publications, and interpersonal skills stations. Contestants will rotate among multiple test stations. Each station will be timed and one rest station is built into the rotation. Test stations may include the following:
- HVAC
- Engine Performance
- Charging Systems
- Environment, Health and Safety
- Electrical Circuit Diagnosis
- Electronic Service Information
- Steering and Suspension
- Information Systems – ChiltonPro
- Professionalism – Job Interview Skills
- Brake Service
- Engine Mechanical
DIESEL EQUIPMENT
TECHNOLOGY CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Blue work pants, as shown
Leather work boots
SkillsUSA Massachusetts T-Shirt, provided
Safety glasses with side shields or goggles
Saf ety: avoid a safety violation or being removed from the contest
NO jeans
NO cell phones allowed
NO loose/long hair (must be secured)
NO loose clothing
NO jewelry
NO sneakers

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
2 - #2 Lead pencils with eraser
All other tools and equipment will be supplied.

Scope of Contest:
The contest will include a series of stations where students will potentially service and repair large diesel engines, transmissions, drive trains, electrical systems, brakes, hydraulic systems and cab components used in farm equipment, trucks and construction equipment. General shop safety rules will be followed. In addition, contestants will be judged on general shop skills, problem-solving skills and shop safety. Points allowed will be assigned by the technical committee based on the difficulty of the assigned task.

Skill Performance:
Contestants will be tested on multiple work stations, which may include the following:
- Shop Skills
- Drive Train
- Precision Measurement
- Electronic Diagnosis
- Safety
- Hydraulic Components
- Machine Inspection
- Electric Power Generation
- On Highway
- Live Engine Test
MARINE SERVICE TECHNOLOGY CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
- Blue work pants, as shown
- Leather work boots
- SkillsUSA Massachusetts T-Shirt, provided
- Safety glasses with side shields or goggles
- NO jeans
- NO cell phones allowed
- NO loose/long hair (must be secured)
- NO loose clothing
- NO jewelry
- NO sneakers

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
- 2 - #2 Lead pencils with eraser
- All other tools and equipment will be supplied.

Scope of Contest:
The national contest is defined by industry standards as established by the American Boat and Yacht Council and industry manufacturers. The contest will include knowledge of marine diagnostics, service and repair of boats and personal watercraft with accessory items. The state contest strives to align with the national contest, which includes skill stations assessing skills in two- and four-cycle engines, outboard and stern drive applications, and two and four-cycle inboard troubleshooting/repair. In addition, proficiency must be demonstrated in marine application electrical/ignition systems, fuel systems, cooling systems, lubrication systems, drive/transmission systems, and boat and trailer rigging and repair.

State Skills:
General shop safety rules will be followed. In addition, contestants will be judged on general shop skills, problem-solving skills and shop safety. Points allowed will be assigned by the technical committee based on the difficulty of the assigned task. Contestants will be tested on multiple work stations, which may include the following:
- Fuel Systems
- Outboard Valve Adjustment
- Remote Control Key Switch Tests
- Control Harness
- Engine Component Identification
- Precision Measuring
- Service Manual Navigation
- Electrical Board Set up and Testing
- Principles of Navigation
- Capacitor Discard Ignition Systems
- Two and Four Cycle Engine Theory of Operation
- Sterndrive Shim Calculations
- Lower Unit Service
DISPLAY EVENTS & TECHSPO

SERIES DIRECTOR:
STEPHEN P. CONDON

CONTACT INFORMATION:
GR. NEW BEDFORD TECHNICAL HIGH SCHOOL
1121 ASHLEY BLVD.
NEW BEDFORD, MA
(508) 998-3321
scondon@gnbvt.edu

EVENTS:

CHAPTER DISPLAY
Briefing: Court Yard
Employability Testing: Best Western - 7:45 a.m. at Zachary’s
Competition: Best Western - Courtyard
Event Manager: Len Gauvin

CRIMINAL JUSTICE
Briefing: Court Yard
Competition: Blackstone - Multi-media Shop / Outside Venue
Event Manager: Kellie Martin and Leanne Fisher

PROMOTIONAL BULLETIN BOARD DISPLAY
Briefing: Court Yard
Employability Testing: Best Western - 7:45 a.m. at Zachary’s
Competition: Best Western - Court Yard
Event Manager: Stephen Marciszyn

TECHSPO
Briefing: Court Yard
Competition: Trade Center Rear Section (BW)
Event Manager: Mindy Kempner

Notes: Techspo exhibits are to be set up on Thursday, 4:00 p.m.–7:00 p.m. in the Trade Center. Please check in with Series Director upon arrival.
Techspo judging will take place on Friday, 9:00 a.m.–12:00 p.m.
Techspo will be open to the public on Friday, 3:00 p.m.–7:00 p.m.
Refer to the 2019-2020 Technical Standards for Information, Standards and Rules for these DISPLAY EVENTS

CHAPTER DISPLAY

PROMOTIONAL BULLETIN BOARD DISPLAY

EMPLOYABILITY SKILLS TESTING:
All contestants in Chapter Display and Promotional Bulletin Board will take their Employability Skills Exams at the Best Western Hotel in Zachary’s Restaurant. There will be “rolling administration” of the test between 7:00 a.m and 10:00 a.m. During the briefing meetings, Series Directors will provide information on what time each group of contestants will take the test.

• Chapter Display competitors should review this year’s theme on page 7. A map of the competition area will be shared, to show the location of your display for competition.

• Techspo contestants need to be registered to compete, as part of the registration process. Use the TECHSPO PROJECT form provided. Techspo exhibits are to be set up on Thursday, 4:00 p.m.–7:00 p.m. in the Trade Center. Please check in with the Series Director upon arrival. The complete double-sided Techspo Form should be displayed next to the project. Techspo judging will take place on Friday, 9:00 a.m.–12:00 p.m. Techspo will be open to the public on Friday, 3:00 p.m.–7:00 p.m.

• Promotional Bulletin Board competitors should review this year’s theme on page 7 and will need to bring an easel to display their board. A map of the competition area will be shared, to show the location of your board for competition.
CRIMINAL JUSTICE CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Blue work pants
Light blue oxford shirt, as shown
NO jeans
NO cell phones allowed
Safety glasses with side shields or goggles
NO loose/long hair (must be secured)
NO loose clothing
NO jewelry
NO sneakers

Safety: avoid a safety violation or being removed from the contest

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
Small pocket notebook for field notes
25’ tape measure
Pens and pencils (two each)
Handcuffs
Handcuff case
Fingerprint kit
Accident template
Flashlight
Belt and training holster with weapon
Camera (can be on phone)
Clipboard or Posse box for paperwork

State Skills: Review the National contest details as written in the 2019-2020 SkillsUSA Championships Technical Standards.
The competitions purpose is to evaluate each contestant’s preparation for employment and recognize outstanding students for excellence and professionalism in Criminal Justice. The contest will include activities that simulate situations encountered by criminal justice professionals.

Contest Guidelines

1. Each contestant must work independently without assistance from instructors, other contestants or observers.
2. The judging criteria and points assigned will be determined by the difficulty of the tasks assigned.
This form needs to accompany the project to the judging area.

<table>
<thead>
<tr>
<th>Student Division:</th>
<th>Adult Division:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 9 [ ]</td>
<td>Post-Grad [ ]</td>
</tr>
<tr>
<td>Grade 10 [ ]</td>
<td>Adult [ ]</td>
</tr>
<tr>
<td>Grade 11 [ ]</td>
<td></td>
</tr>
<tr>
<td>Grade 12 [ ]</td>
<td></td>
</tr>
</tbody>
</table>

Member’s Name, Entering the Project ________________________________

Trade Area _____________________________________________________

**School Information:**

- School Name ___________________________________________________
- School Address _________________________________________________
- City, State & Zip _____________________________________________
- Phone Number _________________________________________________
- Chapter Advisor’s Name _________________________________________

Is this Member Registered as a Techspo Contestant? ____________ *(the $10 fee has been paid as part of the conference registration)*

Is this Member Attending the State Conference? ________________

If Yes, What are they Participating In? __________________________

If No, Who will Set-up and Take Down the Techspo Entry? __________

Project Description ____________________________________________

________________________________________________________________

The project binder must include the projects process including but not limited to: paperwork with descriptions and explanation of the process. Pictures/drawings of ideas that the project was developed from and a time sheet showing the dates and time/length spent on the project with the names and career areas of the individuals involved.

A representative from the sending school for each entrance must be present at the contest briefing. Attendance will be taken and important information will be given.

**Techspo Entry Number:** _______________________________ *(inserted by the MA SkillsUSA Event Manager)*

Possible Student Division Project Category: ____________________________

Possible Adult Division Project Category: _____________________________
### TECHSPO GRADING SHEET

**DIVISION:**  
STUDENT DIVISION  
ADULT DIVISION

<table>
<thead>
<tr>
<th>PROJECT:</th>
<th>POINTS:</th>
<th>JUDGE’S AWARDED POINTS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUCATIONAL VALUE/RELEVANCE</td>
<td>1-10</td>
<td></td>
</tr>
<tr>
<td>DESIGN/FORMAT</td>
<td>1-10</td>
<td></td>
</tr>
<tr>
<td>CREATIVITY/ORIGINALITY</td>
<td>1-10</td>
<td></td>
</tr>
<tr>
<td>QUALITY OF WORKMANSHP</td>
<td>1-10</td>
<td></td>
</tr>
<tr>
<td>PROJECT PROCESS BINDER</td>
<td>1-40</td>
<td></td>
</tr>
<tr>
<td>OVERALL PRESENTATION</td>
<td>1-20</td>
<td></td>
</tr>
<tr>
<td>CLOTHING PENALTY</td>
<td>(minus 0-5% of Total Points)</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL:**

**COMMENTS:**

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

**JUDGE:**

________________________________________________________________________

---

**Techspo Entry Number:** ________________________________  
(inserted by the MA SkillsUSA Event Manager)

Possible Student Division Project Category:

Possible Adult Division Project Category:
OCCUPATIONALLY RELATED EVENTS

SERIES DIRECTOR:
KATHY CONOLE

CONTACT INFORMATION:
(978) 846-2775
kconolemava@aol.com

EVENTS:

COMMUNITY SERVICE
Briefing: Salon C, with notebook/binders
Employability Testing: At contest Site
Competition: Marriott Courtyard - Worcester Room
Event Manager: June Renaghan

CUSTOMER SERVICE
Briefing: Salon C
Competition: Marriott Courtyard - Boston 1 Room
Event Manager: Bonnie Carr & Kim McFarland

ENTREPRENEURSHIP
Business Plan emailed no later than April 5, 2019
Briefing: Salon C
Employability Testing: At Contest Site
Competition: Marriott Courtyard - Boston 2 Room, with 4 copies of Business Plan in binders, a SkillsUSA binder is not required
Event Manager: Rebecca McInnis

RELATED TECHNICAL MATH
Briefing: Salon C
Employability Testing: At Contest Site
Competition: Zachary’s Restaurant (BW)
Event Manager: Stacey O’Keefe
Refer to the 2019-2020 Technical Standards for Information, Standards and Rules for these OCCUPATIONALLY RELATED EVENTS

COMMUNITY SERVICE
CUSTOMER SERVICE
ENTREPRENEURSHIP
RELATED TECHNICAL MATH

EMPLYABILITY SKILLS TESTING:
Employability Skills Testing for Community Service, Customer Service and Entrepreneurship takes place at the Marriott Courtyard, at the contest site.
All contestants in Related Technical Math will take their Employability Skills Exams at the Best Western Hotel in Zachary's Restaurant. There will be “rolling administration” of the test between 7:00 a.m and 10:00 a.m.
During the briefing meetings, Series Directors will provide information on what time each group of contestants will take the test.

• A computer, LCD projector and screen WILL BE PROVIDED for Entrepreneurship Contest presentations.
  Teams should bring their presentation on a flash drive.
• The Community Service Team must bring their completed notebooks TO THE BRIEFING MEETING on Thursday night.
  The notebooks will be handed off for judging after the briefing meeting.
• The Entrepreneurship Contest requires electronic Business Plans to be submitted to the State SkillsUSA Office, emailed no later than April 5, 2019.
  E-mail one copy to: kward@maskillsusa.org (.pdf format)
  Four printed copies, in binders are also required at the competition, a SkillsUSA binder is not required.
  The four printed copies given to the judges must exactly match the PDF version or the team will be disqualified.
• Notebooks and binders may be picked up at the Conference Information Booth Saturday morning, before the Awards Ceremony.
• Observers will not be allowed to view the students during these competitions.
INDIVIDUAL LEADERSHIP

EVENTS

SERIES DIRECTOR:
GAYLE BEGLEY

CONTACT INFORMATION:
(413) 519-1537
gabegley@comcast.net

SERIES DIRECTOR ASSISTANT:
JULIE BOWEN

CONTACT INFORMATION:
WEYMOUTH HIGH SCHOOL
1 WILDCAT WAY
WEYMOUTH, MA 02190
(617) 791-0168
julie.bowen@weymouthps.org

EVENTS:

EMPLOYMENT APPLICATION PROCESS
Briefing: Salon D
(advisor may attend briefing with this student)
Competition: Best Western - TBA
Holding: Best Western - ALL-STAR Restaurant
Event Manager: Sherry Anderson & Diane Swenson

EXTEMPORANEOUS SPEECH
Briefing: Salon D
Employability Testing: 7:45 a.m. at Zachary’s
Competition: Best Western - Executive (Prep), Corporate (Speeches)
Holding: Best Western - ALL-STAR Restaurant
Event Manager: Diane Lyman

JOB INTERVIEW
Briefing: Salon D
Employability Testing: 7:45 a.m. at Zachary’s
Competition: Best Western - Duchess, Draped Hallway
Holding: Best Western - ALL-STAR Restaurant
Event Manager: Martha McCarthy

PREPARED SPEECH
Briefing: Salon D
Employability Testing: 7:45 a.m. at Zachary’s
Competition: Best Western - Boxboro
Holding: Best Western - ALL-STAR Restaurant
Event Manager: Jillian Gentle
Refer to the 2019-2020 Technical Standards for Information, Standards and Rules for these

INDIVIDUAL LEADERSHIP EVENTS

EMPLOYMENT APPLICATION SKILLS
EXTEMPORANEOUS SPEECH
JOB INTERVIEW
PREPARED SPEECH

EMPLOYABILITY SKILLS TESTING:
All contestants in Leadership Events (except Employment Application Skills) will take their Employability Skills Exams at the Best Western Hotel in Zachary’s Restaurant. There will be “rolling administration” of the test between 7:00 a.m and 10:00 a.m. During the briefing meetings, Series Directors will provide information on what time each group of contestants will take the test.

• The Employment Application contest requires documentation from a school administrator, verifying each student’s eligibility.
• Prepared Speech should review this year’s theme listed on page 7.
• Job Interview contestants need to follow a specific resumé format, with a sample provided on the next page.
JOB INTERVIEW CONTEST

THIS CONTEST REQUIRES COMPETITORS TO BRING A ONE-PAGE, TYPEWRITTEN RESUMÉ TO BE DELIVERED TO THE TECHNICAL COMMITTEES AT THE COMPETITION ON FRIDAY.

Specific resumé requirements for JOB INTERVIEW contest:

The following information must be contained in the one-page resumé:

a. Name, address and phone number
b. Career objective
c. Education and training
d. Work experience beginning with present employment listing specific responsibilities
e. Professional memberships, major accomplishments, awards earned
f. References are to be on a separate page, not on the one-page resumé

Joe Student
123 Main Street • West Anytown, MA 01234
Home (508) 123-4567 • Cell (774) 123-4567 • JoeStudent@gmail.com

Career Objective:

To work within the field of Marine Service Technology, so I may be able to contribute to a professional career.

Education & Training:

September 2014 - Present
Marine Service Technology student for four full years
Focused on all aspects of the industry including shop and theory classes

Sept 2015 - Present
Co-op experience at Ocean Marine • Bedford, MA
Responsibilities:
- Install electronic equipment on boats
- Service and repair, including small engines
- Troubleshoot and repair problems
- Focused on customer satisfaction

September 2015 - Present
Internship at Seaward Boatyard • Watertown, MA
Responsibilities:
- Launching boats for the summer season
- Serviced and prepared boats for launch, based on customer needs and launch schedule

Other Experience:

Baseball Player
- Anytown Mall School • Watertown, MA
- Anytown High School, Junior Varsity Team • Watertown, MA
- Senior Babe Ruth Team • Watertown, MA
- Anytown High School, Senior Varsity Team • Watertown, MA

Professional Member:

National Honor Society member
- Created Community Service project for members to work on
- Attended Leadership Training program offered through the National Honor Society
- Sold Yankee Candle items for the National Honor Society Fundraiser
- Participated in Fall State Leadership Conference during my junior year
- Competed in Marine Technology Competitions at both the District and State levels
- Competed in Marine Technology Competitions in the District and State levels
- Marine Service Technology Advisory Committee member, student representative
- Participated in Marine Service Technology District competition
- Participated in Marine Service Technology State competition
- MVP Award for Football, from Anytown Regional Technical High School
- SkillsUSA silver medallion for Marine Service Technology District competition
- SkillsUSA bronze medallion for Marine Service Technology State competition
- KPCC Award for Science, from Anytown Regional Technical High School
- SkillsUSA silver medallion for Marine Service Technology District competition
- SkillsUSA Bronze medallion for Marine Service Technology State competition
- MVP Award for Football, from Anytown Regional Technical High School

References:

Kevin Smith, Anytown High School, Marine Service Technology Instructor
Joe Handy, Service Manager, Ocean Marine
Lisa Jones, Anytown High School, English Instructor
Kevin Smith, Anytown High School, Marine Service Technology Instructor
Joe Handy, Service Manager, Ocean Marine

Make sure your resumé is as complete as it would be, if you were actually applying for a job!
TEAM LEADERSHIP EVENTS

SERIES DIRECTOR:  
BRIAN BENTLEY

CONTACT INFORMATION:  
PHONE: 508-246-9815  
briansbentley@comcast.net

EVENTS:

CAREER PATHWAYS SHOWCASE  
Briefing: Trade Center Rear Section  
Employability Testing: Best Western - 7:30 a.m. at Zachary's  
Competition: Best Western - Seminar, Salon A, Princess Ballroom (BW),  
Set-up hour 8:00-9:00am Friday morning  
(all presentation materials must be set-up within this time frame)  
Holding: Best Western - Salon B  
Event Manager: Amanda Reis, Glenn Koocher and Raymond Medeiros

CHAPTER BUSINESS PROCEDURE  
Briefing: Trade Center Rear Section  
Employability Testing: Best Western - 7:45 a.m. at Zachary's  
Competition: Best Western - Zachary's (Prep), Marlborough (Demo)  
Holding: Best Western - ALL-STAR Restaurant  
Event Manager: Stacey Pacheco

COMMUNITY ACTION PROJECT  
Briefing: Trade Center Rear Section  
(advisor may attend briefing with this student)  
Competition: Best Western - Marlborough (before OCC & CBP)  
Holding: Best Western - ALL-STAR Restaurant  
Event Manager: Sherry Anderson & Diane Swenson

OPENING & CLOSING CEREMONIES  
Briefing: Trade Center Rear Section  
Employability Testing: Best Western - 7:45 a.m. at Zachary's  
Competition: Best Western - Marlborough  
(after Community Action Project)  
Holding: Best Western - ALL-STAR Restaurant  
Event Manager: Stacey Pacheco
EMPLOYABILITY SKILLS TESTING:
All contestants in Leadership Events (except Community Action Project) will take their Employability Skills Exams at the Best Western Hotel in Zachary’s Restaurant. There will be “rolling administration” of the test between 7:00 a.m and 10:00 a.m. During the briefing meetings, Series Directors will provide information on what time each group of contestants will take the test.

- Chapter Business Procedure, Knowledge Performance: The written exam consists of 100 multiple-choice questions found in the National Association of Parliamentarians Exam which is based on Roberts Rules of Order Newly Revised 11th Edition will be administered at the same time as Employability Skills Testing.
- The Opening & Closing Ceremonies Contest will allow adult observers only and contestants will be prohibited from watching other teams.
REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire. NO cell phones allowed.

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
1. Supplied by the technical committee:
   One 8’ wide by 8’ deep space supplied with a 6’ table (chairs may be available) and one standard 120-volt electrical outlet
2. Supplied by the contestant:
   Project for display and if needed, one three-prong, 20’ 110v electrical power strip

State Skills: Please refer to 2019-2020 National Technical Standards for more contest details
Student teams will use their course of study as the basis of a project that will benefit their class, school, community or industry. Student teams will develop a learning-based project that will benefit their school, industry or community with a focus on their career preparation. Student teams will develop a display to use in their community to explain the project, their studies and its benefits. This contest will judge mastery of students’ training, its application, the project’s benefit to their community, and display and presentation techniques. The set-up time for Career Pathways Showcase is 8:00am to 9:00am in the presentation room assigned. Time limit: Maximum time limit for a presentation/demonstration is eight (8) minutes. Following the presentation, judges may ask questions.

All contestants will take their Employability Skills Exams at the Best Western Hotel in Zachary’s Restaurant. There will be “rolling administration” of the test between 7:00 a.m and 10:00 a.m. During the briefing meetings, Series Directors will provide information on what time each group of contestants will take the test.

Judging Criteria: Each project will be judged according to its own merits and compliance with the listed criteria, as well as competitively within each pathway. Participants should read the guidelines carefully and make sure the project presentation covers all the criteria.

<table>
<thead>
<tr>
<th>Category</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge Attained</td>
<td>150</td>
</tr>
<tr>
<td>Demonstration/Evidence of Technical Skill</td>
<td>150</td>
</tr>
<tr>
<td>Presentation Skills</td>
<td>200</td>
</tr>
<tr>
<td>Community Impact</td>
<td>200</td>
</tr>
<tr>
<td>Integration of Business and Industry</td>
<td>150</td>
</tr>
<tr>
<td>Overall Effect</td>
<td>150</td>
</tr>
</tbody>
</table>

Schools may register one team in each of the six available clusters: (Register the Team based on their Technical Program Enrollment)
Each team will need to identify the student’s career cluster and use the reference number to identify the correct competition category, to properly register each team. (See next page for competition categories)

The SIX Career Pathways for SkillsUSA Competition include the following Cluster options:
Cluster #1 – Arts and Communication
Cluster #2 – Business, Management and Technology
Cluster #3 – Human Services
Cluster #4 – Health Services
Cluster #5 – Industrial and Engineering Technology
Cluster #6 – Natural Resources/Agriculture/Food
Register for **Cluster #1 – Arts and Communications Cluster**, which includes:

1a. Arts, A/V Technology & Communications: A/V Technology & Film • Journalism & Broadcasting • Performing Arts • Printing Technology • Telecommunications • Visual Arts

Register for **Cluster #2 – Business, Management and Technology**, which includes:

2a. Business Management & Administration: Administrative Support • Business Information Management • General Management • Human Resources Management • Operations Management

2b. Finance: Accounting • Banking Services • Business Finance • Insurance • Securities & Investments

2c. Information Technology: Information Support & Services • Network Systems • Programming & Software Development • Web & Digital Communications

2d. Marketing: Marketing Communications • Marketing Management • Marketing Research • Merchandising • Professional Sales

Register for **Cluster #3 – Human Services**, which includes:

3a. Education & Training: Administration & Administrative Support • Professional Support Services • Teaching/Training

3b. Government & Public Administration: Foreign Service • Governance • National Security • Planning • Public Management & Administration • Regulation • Revenue & Taxation

3c. Hospitality & Tourism: Lodging • Recreation, Amusements & Attractions • Restaurants & Food/Beverage Services • Travel & Tourism

3d. Human Services: Consumer Services • Counseling & Mental Health Services • Early Childhood Development & Services • Family & Community Services • Personal Care Services

3e. Law, Public Safety, Corrections & Security: Correction Services • Emergency & Fire Management Services • Law Enforcement Services • Security & Protective Services

Register for **Cluster #4 – Health Services**, which includes:

4a. Health Sciences: Biotechnology Research & Development • Diagnostic Services • Health Informatics • Support Services • Therapeutic Services

Register for **Cluster #5 – Industrial and Engineering Technology**, which includes:

5a. Architecture & Construction: Construction • Design/Pre-Construction • Maintenance/Operations

5b. Manufacturing: Health, Safety & Environmental Assurance • Logistics & Inventory Control • Maintenance, Installation & Repair • Manufacturing Production Process Dev. • Production • Quality Assurance

5c. Science, Technology, Engineering & Mathematics: Engineering & Technology • Science & Mathematics

5d. Transportation, Distribution & Logistics: Facility & Mobile Equipment Maintenance • Health, Safety & Environmental Management • Logistics Planning & Management Services • Sales & Service • Transportation Operations • Transportation Systems/Infrastructure Planning, Management & Regulation • Warehousing & Distribution Center Operations

Register for **Cluster #6 – Natural Resources/Agriculture/Food**, which includes:

6a. Agriculture, Food & Natural Resources: Agribusiness Systems • Animal Systems • Environmental Service Systems • Food Products & Processing Systems • Natural Resources Systems • Plant Systems • Power, Structural & Technical Systems Architecture & Construction
COMMUNITY ACTION PROJECT CONTEST

REQUIREMENTS AND SCOPE OF CONTEST

Clothing Requirements: failure to do so will result in a clothing penalty
Official SkillsUSA Attire (review National Technical Standards) Blazer is optional or Professional Business Attire. NO cell phones allowed

Note: Contestants must wear their official contest clothing to the contest orientation meeting.

Tool Requirements: One-page type-written resume required for every contestant, failure to do so will result in a 50-point penalty
1. Supplied by the technical committee:
   a. Judges
   b. 110 volt outlet and one extension cord
   c. Timer and Time cards
2. Supplied by the contestant:
   a. Notebook documenting project.
   b. Presentation media, such as posters, Laptop computer, LCD projector or other visual equipment as necessary for the presentation. Recommendation is to have a backup presentation should technical problems occur when using a computer.
   c. One-page, typewritten resume for student(s) involved in the presentation.
   d. Documentation from a school administrator, verifying each student’s eligibility as listed below.

Purpose: To evaluate a team of two contestants’ ability to develop, execute, document and present a Project that was completed in their Community or School Community which provides a benefit or learning experience to the Community or School.

Eligibility:
The contest is available to students who are classified under the provisions of Public Law 105-17, Individuals with Disabilities Education Act, 1997. This contest requires documentation from a school administrator, verifying each student’s eligibility.

An individual or a team of two students from the same school may organize the Community Action Project. The students may enlist the assistance of others at their school in completing the Project, including other shops or chapters within the school. However, only the individual student or team who developed the Project must present the results at the competition. The students need not necessarily be from the same shop, just the same school. If a team, both members must be actively involved in the presentation.

Knowledge Performance:
There is no written knowledge test required in this contest.

State Skills: Please refer to 2019-2020 National Technical Standards for more contest details
The contest will require contestant(s) to develop and execute a Project in their Community or School Community. Documentation or recording of the events will be maintained in a Notebook to be presented at the competition. The presentation shall last a minimum of 5 minutes and a maximum of 10 minutes, explaining the purpose and scope of the Project, how the Project was developed, methods used, implementation and execution of the project, and results.
COMMUNITY ACTION PROJECT Continued

The contest will consist of two parts:

1. At Home School:
   Project will be completed prior to competition.
   a. Determine the need or desire for a Project
   b. Scope or outline of the Project
   c. Develop the timeline of the Project
   d. Implement the Project
   e. Anticipate results of the Project or impact to the Community
   f. Include participation of others involved; school peers, school administration, community leaders, or other support people.
   g. Evaluate final results of the Project by the student or team.

Notebook:
Purpose of the notebook is to document and capture the chronological events in the completion of the Project. The Notebook will be judged at the contest. The Notebook may be of a design by the student or team. However, the format listed below must be followed.
   a. Title Page – Name of the Project
   b. Table of Contents
   c. Section 1: Methodology for determining the project to be completed. How did you decide on the Project, who did you enlist at this stage, what was the anticipated goal of the Project?
   d. Section 2: How was the Project organized? What was the timeline? Who was responsible for which steps? How did you determine this?
   e. Section 3: Implementation schedule, specific steps to be followed.
   f. Section 4: Result of the Project. Impact of the Project on the School or Community, who benefited from the Project.
   g. Section 5: Recognition of Publicity gained. Was this recognition in any local papers, other media, school assembly, local community group, letters of appreciation, etc?
   h. Section 6: Your evaluation of the Project and recommendation. Do you feel the Project was successful or not? If yes, why? If not, why?

2. Presentation:
Purpose of the presentation is to provide the judges with an understanding of the Project, how the project was decided or determined, how it was completed, results achieved, and thoughts or recommendations for others to do a similar project.
   a. Presentation shall be a minimum of 5 minutes and a maximum of 10 minutes in length.
   b. Time Penalty: 5 points will be deducted for each 30 seconds (or fraction thereof) under the five minutes or for each 30 seconds (or fraction thereof) over the ten minutes. Time will be started with the presentation begins. The timekeeper will signal the presenter at 5 minutes, eight minutes, and ten minutes.
   c. Presentation can use any type of media, such as PowerPoint, slides, transparencies, posters, etc. Be creative to express to the judges your presentation. All presentation materials must be produced by the students involved in the project whether they are presenting or not.
   d. If team of 2 students, both must participate in the presentation.

Standards and Competencies:
CAP 1.0 – Create a community project.
   Determine the need/desire of the project
   Develop the project
   Obtain assistance in completing the project
   Execute the project

CAP 2.0 – Create a professional notebook that follows guidelines and effectively expresses Project.
   Design a title page that lists the name of the project
   Construct a table of contents and organize subjects in order and list with page numbers
   Write clear and effective objectives and scope of Project
   Describe impact of the Project on the school or community
   Secure any publicity, including newspaper articles, letters of commendation from appropriate sources
COMMUNITY ACTION PROJECT Continued

Clearly evaluate and recommend (or not) your Project.
CAP 3.0 – Design and prepare an effective presentation that provides the judges with an overview of the Project, including the results achieved

Prepare a five to ten minute presentation of the Project
Organize the demonstration in a logical and coherent manner
Incorporate at least one of the following visual aids in the presentation: posters, flip chart, overhead transparencies, 35mm slide presentation and/or PowerPoint or other computer presentation.

CAP 4.0 – Deliver the presentation in a professional manner meeting the standards outlined by the technical committee.

Explain the Project through the use of media you have chosen
Demonstrate an effective and pleasing delivery style
Effectively use verbal illustrations and examples
Make a formal and effective introduction to the presentation that clearly identifies the scope of the Project.
Use a variety of verbal techniques including: modulation of voice, changing volume, varied inflection, modifying tempo and verbal enthusiasm
Demonstrate poise and self-control while presenting
Demonstrate good platform development and personal confidence
Tie organizational elements together with an effective closing
Complete the Presentation within the time limits set by the contest requirements

CAP 5.0 – Wear appropriate clothing per SkillsUSA National requirements.

Display clothing the meets national standards for competition
Demonstrate good grooming in dress and person hygiene.

Rating Sheet
Initial proposed rating sheet is attached. Notebook documenting the project will be worth 400 points with the presentation worth 600 points.

<table>
<thead>
<tr>
<th>Notebook</th>
<th>Points</th>
<th>Presentation</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title Page</td>
<td>5</td>
<td>Introduction, involvement of members</td>
<td>75</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>5</td>
<td>Project Scope, Creativity</td>
<td>100</td>
</tr>
<tr>
<td>Section 1</td>
<td>80</td>
<td>Organization</td>
<td>75</td>
</tr>
<tr>
<td>Section 2</td>
<td>80</td>
<td>Steps/Timeline</td>
<td>75</td>
</tr>
<tr>
<td>Section 3</td>
<td>50</td>
<td>Results</td>
<td>75</td>
</tr>
<tr>
<td>Section 4</td>
<td>80</td>
<td>Closing</td>
<td>50</td>
</tr>
<tr>
<td>Section 5</td>
<td>50</td>
<td>Organization of Presentation</td>
<td>100</td>
</tr>
<tr>
<td>Section 6</td>
<td>50</td>
<td>Presence, Demeanor, Self-Confidence</td>
<td>50</td>
</tr>
<tr>
<td>TOTAL</td>
<td>400</td>
<td>TOTAL</td>
<td>600</td>
</tr>
</tbody>
</table>
DEMONSTRATION SKILL EVENTS

SERIES DIRECTOR:
KRISTINE SMITH

CONTACT INFORMATION:
GREATER LAWRENCE TECHNICAL HIGH SCHOOL
57 RIVER ROAD
ANDOVER, MA 01810
(978) 686-0194
ksmith@glts.net

EVENTS:

ACTION SKILLS
Briefing: Salon E (advisor may attend briefing with this student)
Competition: Best Western - Northboro
Holding: Best Western - ALL-STAR Restaurant
Event Manager: TBA

AMERICAN SPIRIT AWARD
Briefing: Salon E, with notebook/binders
Employability Testing: Best Western - 7:45 a.m. at Zachary's
Competition: Best Western - Conference Room
Holding: Best Western - ALL-STAR Restaurant
Event Manager: Joseph Martins

JOB SKILL DEMONSTRATION A
Briefing: Salon E
Employability Testing: Best Western - 7:45 a.m. at Zachary's
Competition: Best Western - Southboro
Holding: Best Western - ALL-STAR Restaurant
Event Manager: Robert Wilby

JOB SKILL DEMONSTRATION OPEN
Briefing: Salon E
Employability Testing: Best Western - 7:45 a.m. at Zachary's
Competition: Best Western - Westboro
Holding: Best Western - ALL-STAR Restaurant
Event Manager: Jaime Hennessy

OCCUPATIONAL HEALTH & SAFETY
Briefing: Salon E, with notebook/binders
Employability Testing: Best Western - 7:45 a.m. at Zachary's
Competition: Best Western - Conference Room
Holding: Best Western - ALL-STAR Restaurant
Event Manager: Joseph Martins

OUTSTANDING CHAPTER
Briefing: Salon E, with notebook/binders
Employability Testing: Best Western - 7:45 a.m. at Zachary's
Competition: Best Western - Conference Room
Holding: Best Western - ALL-STAR Restaurant
Event Manager: TBA
Refer to the 2019-2020 Technical Standards for Information, Standards and Rules for these

DEMONSTRATION SKILL EVENTS

ACTION SKILLS
AMERICAN SPIRIT AWARD
JOB SKILL DEMONSTRATION A
JOB SKILL DEMONSTRATION OPEN
OCCUPATIONAL HEALTH & SAFETY
OUTSTANDING CHAPTER

EMPLOYABILITY SKILLS TESTING:
All contestants in Demonstration Skill Events (except Action Skills) will take their Employability Skills Exams at the Best Western Hotel in Zachary’s Restaurant. There will be “rolling administration” of the test between 7:00 a.m and 10:00 a.m. During the briefing meetings, Series Directors will provide information on what time each group of contestants will take the test.

- The Action Skills contest requires documentation from a school administrator, verifying each student’s eligibility
- For Action Skills, Job Skill Demonstration A and Job Skill Demonstration Open: No open flames allowed during competition!
- The Occupational Health & Safety Single Team should be made up of students from one technical program
- The Occupational Health & Safety Multiple Team should be made up of students from multiple technical programs
- American Spirit, Occupational Health & Safety, and Outstanding Chapter teams must bring their completed notebooks TO THE BRIEFING MEETING on Thursday night. The notebooks will be handed off for judging after the briefing meeting
- Notebooks and binders may be picked up at the Conference Information Booth Saturday morning, before the Awards Ceremony

2019-2020 SkillsUSA Championships Technical Standards available on-line to all professional members
OTHER STATE EVENTS

EVENTS:

STUDENT ADVISORY COMMITTEE
Check the state program for details related to your schedule
Student Advisory Committee Liaison: Jillian Gentle

VOTING DELEGATES
The number of Voting Delegates is determined by the number of SkillsUSA members from your Chapter
Briefing: Trade Center
Delegate Sessions: Trade Center
Delegate Sessions Coordinator: Mary-Theresa Tringale

STATE OFFICER CANDIDATES
Briefing: Best Western’s Executive Room
Competition: Trade Center
State Officer Candidate Liaison: Katelyn Fitzsimmons

T-SHIRT DESIGN AND PIN DESIGN WINNERS
Check the state program for details related to your Invited Guest Reception
General Sessions Coordinator: Karen Maguire

NATIONAL VOTING DELEGATES
National Voting Delegates may participate in a contest or as a voting delegate
Selected National Voting Delegates will be announced during the Awards Session
Winners will need to attend a meeting before the National Conference
National Delegate Coordinator: Katelyn Fitzsimmons / Samantha Dorwin

NON-TRADITIONAL CAREER PORTFOLIO
Properly submitted portfolios will be judged during the State Conference
Winners will be announced during the Awards Session
Event Manager: Jeff Perrotti

COSTELLO FAMILY COMMUNITY SERVICE AWARD
Properly submitted portfolios will be judged during the State Conference
Winners will be announced during the Opening Session
Event Managers: Community Service Commission Members

CHAPTER EXCELLENCE PROGRAM AWARD
Properly submitted applications will be judged prior to the State Conference
Winners will be announced during the Chapter Excellence Reception
Event Manager: Karen Ward

ADVISOR OF THE YEAR AWARD
Nominated Advisors will be introduced during the Opening Ceremony
Check the state program for a schedule of Nominee Interviews
The Advisor of the Year will be announced during the Awards Session
Event Manager: Michelle Roche
Refer to this year’s Advisor Handbook for Information, Standards and Rules for

OTHER STATE EVENTS

• Information and forms required for these events may be found in the Chapter Advisor’s Handbook each year
• Employability Testing will take place in Zachary’s restaurant (start time 7:00am, on a rolling basis according to presentation time.)
• Voting Delegates need to follow their own Delegate schedule during the State Conference, local officers and representatives will assemble in the conference’s voting delegate sessions and regular business meetings to elect SkillsUSA state officers and decide on changes to the state SkillsUSA constitution and by-laws. All voting delegates will be required to:
  - Attend and participate in three delegate sessions and participate in the election of State Officers
  - Complete and turn in all task force assignments
  - Prepare to meet using parliamentary procedure under Robert’s Rules of Order, Newly Revised
• State Officer Candidates are reminded to bring campaign materials and invoices to the conference and to appoint a campaign manager from their collection of delegates, reference the SLSC Delegate Guide for details
• The published Non-Traditional Career Portfolio submission deadline is April 1, 2019
• The published Costello Family Community Service submission deadline is April 1, 2019
• The Advisor of the Year may be selected to represent Region One as a National Advisor of the Year Nominee, during the following year (Congratulations Jason McCuish)
• Don’t forget the scholarship opportunities from the Chapter Advisor’s Handbook, which have a submission deadline of April 1, 2019
Champions at Work

SkillsUSA Massachusetts
250 Foundry Street
South Easton, MA 02375
www.maskillsusa.org

SkillsUSA Massachusetts
@maskillsusa

SkillsUSA Massachusetts, in partnership with business and industry, provides opportunities for members to develop individually and improve teamwork, leadership and professional skills through education, training, service and competition.