



SkillsUSA Florida: State Contests by Cluster 2023 – 2024

Competitive events offered by SkillsUSA Florida at the annual State Leadership and Skills Conference aligns with a sector, or career cluster, [as defined by the Florida Department of Education](#). Descriptions provided are general and should not be used for contest preparation. For specific contest guidelines and eligibility, refer to the official Technical Standards.

ARCHITECTURE AND CONSTRUCTION (ARCH)

Architectural Drafting – Contestants use their drafting skills to solve an Architectural problem, including a written test, hand sketch, and drawings that are computer-generated. The contest evaluates the contestants' problem-solving abilities, as well as CAD skills.

Cabinetmaking – Competitors build a small cabinet or piece of furniture from the materials and drawings supplied. Competitors are expected to read the drawings, lay out, create cut list, and cut the parts using a variety of tools including, but not limited to: table saw, miter saw, drill, hinge boring machine and various hand tools. The parts must be accurately assembled, sanded and adjusted to tolerances specified by the judges.

Carpentry – Competitors frame walls using wood and/or steel studs, cut and install rafters, gable end overhangs, fascia board and soffit installation, install sheathing and/or exterior siding and trim. Demonstration of knowledge of stair construction is required. Competitors will be judged on accuracy, ability to read and interpret blueprints, workmanship, safety and the proper use of tools, equipment and materials.

Commercial Roofing (*Demonstration Contest*) – Competitors will install the most used roof type, thermoplastic, on the same mockup used for NRCA's ProCertification exam. Participants must don all required safety equipment, roll out a sheet of thermoplastic membrane, mechanically attach it to the deck, flash the perimeter edge wall, and flash around a box and pipe boot.

Electrical Construction Wiring – Contestants complete a written test of questions formulated from the latest edition of the National Electric Code (NEC), a practical conduit bending exercise and installation of a conduit system, cabling system and wiring devices. Working from drawings and specification sheets, contestants install an electrical system common in most residential and light commercial projects. Judging is based on general workmanship, accuracy of layout and installation, and adherence to the current NEC and standard industry safe practices.

Heating, Ventilation, Air Conditioning and Refrigeration (HVACR) – Testing stations are designed to assess skills identified by industry HVACR standard, which may include work with ice machines, refrigerated display cases, small package HVAC units, furnaces, and split-system air conditioning and/or heat pump units and geothermal units.

Industrial Motor Control – Students demonstrate their knowledge of electrical principles, equipment and industry codes and standards as it relates to the design and installation of motor control systems. Students demonstrate their skills and abilities in applying that knowledge by properly installing motor control equipment and associated enclosures, raceways, pilot devices and circuitry in accordance with accepted industry practice and National Electric Code requirements.

Masonry – Competitors are expected to construct a composite brick and block project in a set time period that tests their ability to meet industry standards in quality. In addition to a written exam, students are judged on the most frequently used details in masonry construction.

Plumbing – Competitors rough-in hot and cold-water lines with copper tubing and rough-in sanitary drainage, waste and vent lines with cast iron and PVC plastic for a water closet, a lavatory, a washer box and a floor drain. Water pipes are pressure tested on completed projects. Professional plumbers and pipefitters judge the competitors on accuracy, workmanship, proper selection and use of tools and supplies and proper safety procedures.



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Teamworks – Teams of four students build a construction project that demonstrates their ability to work to understand the project elements based on a detailed blueprint and special instructions presented at the pre-competition orientation. Each team must then write a project completion action plan and present their plan as one of the key elements of the competition (all team members must participate in the presentation). During the construction project, the team demonstrates their ability to work together by using their carpentry, roofing, electrical, plumbing and masonry skills. Judging is based on the team's presentation skills, ability to construct the project per competition specified building codes, jobsite safety and cleanliness, organized and correct ordering of materials from the competition material depot, proper use and accountability of tools and equipment and the rate of completion of the project.

Welding – Competitors receive competition drawings and a set of welding procedure specifications that conform to the latest edition of the American Welding Society standards. At a series of stations, competitors are tested on various aspects of welding: measuring weld replicas, using weld measuring gauges; laying out a plate and using oxy-acetylene equipment to cut several holes that are checked for accuracy and quality; gas metal arc welding (GMAW) on steel making welds in various positions using short circuiting transfers; flux cored arc welding (FCAW) using a shielding gas, making welds in various positions and, using a combination machine capable of providing the correct welding current for shielded metal arc (SMAW) and gas tungsten arc welding (GTAW). Competitors complete the steel project and weld an aluminum project in various positions using a variety of filler metals.

Welding Fabrication – This competition requires a team of three students to use their welding and fabrication skills to build a designed project from the provided material. The project is constructed by the competitors based on prints provided. Teams should be skilled in the following welding and cutting processes: SMAW, GTAW, GMAW, FCAW / OFC and PAC. The students are also required to be proficient in using common tools of a workshop.

Welding Sculpture – Competitors demonstrate their ability to design and produce a welded sculpture and to describe all aspects of the creation of their design. Welded sculptures are displayed for the competition along with a professional portfolio documenting evidence of creating the original work. Each participant is interviewed regarding the design and creation of the piece. Note: The introduction of an onsite welding component was demonstrated in the 2023 competition and will be scored in 2024 at the national competition.



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ARTS, A/V TECHNOLOGY AND COMMUNICATIONS (ART)

3-D Visualization and Animation – Teams of two produce high quality images and an animated short subject using 3D computerized images. Judges evaluate students on their technical knowledge, production skills and creative abilities, including visual development and storyboarding.

Advertising Design – The contest evaluates technical skills and creative aptitude as though contestants worked for an ad agency. In addition to a written test, competitors will re-create a given advertisement on the computer. Contestants also compete in a creative part of the competition, which involves the application of creative thinking and development of a design problem.

Audio/Radio Production – Students produce (plan, write, voice, record, edit, render, etc.) a 5-minute radio production such as a PSA, NPR style soundscape or news story, or similar. Teams produce various ad spots and other advertisements and insert them into the production. The complete production requires students to demonstrate their ability to plan a project that meets a specific prompt and run time; and to gather, edit and mix a variety of audio sources. Competitors must render their completed project to a specified audio file format.

Digital Cinema Production – A team of two creates a short video (4 ½ to 5 minutes), filmed, and edited in advance. Students complete a written exam and a storyboard and take part in an interview with judges. Teams will also participate in an onsite editing challenge with footage and audio provided.

Graphic Imaging Sublimation – Students demonstrate individual skills in producing graphic imaging sublimation products using equipment and technologies meeting graphic imaging sublimation industry standards. Students may also print items, such as mugs, mouse pads, metal, glass, ceramic tiles, hardboard, polyester knit cloth, slate, and fiber reinforced plastic.

Interactive Application and Video Game Development – A team of two students produces an original prototype or sample of an interactive application or video game with at least one level and ten minutes of interactive content. Students must also produce a Game Design Document (GDD) with SWOT analysis and present their project to a panel of judges.

Photography – Contestants demonstrate their ability to use digital SLR's, image editing software (Adobe Photoshop) and professional studio lighting. Students perform on-site photography, portrait studio lighting & posing, process and print digital photos and submit two mounted & matted photographs for judging and display at the competition.

Television (Video) Production – Teams of two contestants plan and shoot a video on location to convey the "theme" of the prompt. Editing takes place in the contest area with special emphasis on professional production of the video by industry standards, quality of audio and video, and adequate conveyance of the "theme" to the viewer.

Video News Production (formerly Broadcast News Production) – Two students serve as the news anchor team, one student serves as the team's director/technical director, and one student serves as the floor director. Each team has two hours to write and produce their rundown before assigned contest time. Teams produce and complete a three-minute newscast as if it were live.

Web Design and Development – A team of two students completes a series of challenges focusing on website usability and accessibility, with at least one challenge related to scripting (client, server, or both). Judges evaluate teams on the process they use to meet the challenges and how well they work as a team.



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ENGINEERING AND TECHNOLOGY EDUCATION (ENG)

Commercial sUAS Drone Technology – Student teams develop real-world expertise in UAV multi-rotor design, construction, programming, operation, and repair. Teams demonstrate fundamental drone piloting and safety skills through participation.

Computer Science and Robotics (*Demonstration Contest. Middle School Only*) – More information coming soon.

Electronics Technology – The contest includes five sections: customer service exam, written exam, soldering, breadboarding and troubleshooting. Contestants demonstrate their knowledge of analog and digital circuitry; ability to troubleshoot electronic circuits; ability to construct and test experimental circuits; and ability to design and select circuit components.

Engineering Technology and Design – A team of three students demonstrates their ability to design an innovative engineering project and present those ideas along with a display and live model. Judges evaluate students on their performance as a professional team, presentation of their project to a panel of judges, their storyboard presentation model, and the overall effect of the presentation. Teams are presented with an engineering challenge onsite to complete as a group and present their solution to the judges.

Mobile Robotics Technology – Teams are given a task to solve using a mobile robotic system (VEX) that is built ahead of time and brought to the competition. Teams will have two scored chances to solve the mobile robotic challenge and will be given a design and programming interview. Once a team has performed the required task or set of tasks, a design change may be introduced. Competitors are required to adhere to industry safety standards using the hardware and software they have selected.

Principles of Engineering Technology – The competition evaluates competitors' understanding of basic technical concepts and principles of the applied sciences and their ability to demonstrate and explain the concept/principle in action and application. Any technical concept may be demonstrated, provided it is related to the principles of technology or engineering curriculum and incorporates basic principles of the applied sciences.

Robotics: Urban Search and Rescue – A two-member team builds its robot and arm mechanism prior to the competition. During the competition, the team remotely operates the robot, which must traverse the course, locate the ordinances, secure them, and properly dispose of them. This competition assesses proficiencies such as remotely operating the robot via camera, navigation, manipulating the arm mechanism to collect simulated ordinances, traversing various types of terrain, and communication between driver and spotter.

Team Engineering Challenge (*Middle School only*) – Teams of three work together to solve a problem and provide a clear explanation of the topic using examples, experiments, displays and practical testing operations. Teams must also "purchase" items to solve the problem in adherence to a budget. The competition is intended to foster creativity, innovation, teamwork and problem-solving skills.



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HEALTH SCIENCES (HEALTH)

Basic Health Care Skills (*High School Only*) – Competitors demonstrate their knowledge and ability to perform entry-level procedures or skills based on the following list of core standards: academic foundations, communication skills, career opportunity concepts and systems, employability and teamworking, ethical and legal issues and safety practices. Contestants must also present a topic of their choice related to the health care industry.

***Biotechnology Knowledge Bowl** – A team of 4 students will be tested on their collective knowledge within the biotechnology field. Teams will be judged on their accuracy in answering questions in categories including molecular and cell biology, microbiology, data analysis, biomanufacturing, instrumentation use, regulation affairs, bioethics, employability skills, safety practices, biotechnology current events, communication, and teamwork.

NOTE: This contest may shift to a national demonstration contest (Biotechnology Knowledge Bowl). The announcement will be made by November 1. If the contest becomes a National Demonstration Contest, the Florida-only technical standards will be revised to align with the national standards.

First Aid/CPR – The contest evaluates a contestant's ability to perform procedures or take appropriate action based on scenarios presented related to CPR (Adult/AED, 2-man system, child, and infant CPR) first aid medical emergencies. All skills are judged on nationally accepted standards identified by The American Red Cross, The American Heart Association, The American Safety and Health Institute and The National Safety Council.

Health Knowledge Bowl – Teams of four demonstrate their collective knowledge of health occupations, judged on speed and accuracy answering questions in nine categories: Academic Foundations, Communication, Systems, Employability Skills, Legal Responsibility, Ethics, Safety Practices, Teamwork, and Health Maintenance.

Medical Assisting – Competitors are judged on their skills, speed, use of correct safety measures and the ability to interact personally with the patient(s) through various stations associated with skills that may be found in an ambulatory medical office or clinic. The competitors are judged on general office skills, communication skills, patient education, knowledge of anatomy and physiology, knowledge of medical terminology, instruments, medical equipment and on procedures and techniques found in an ambulatory medical office or clinic. Competitors are given a scenario which requires action.

Medical Math – Contestants demonstrate their knowledge of general math concepts used in the healthcare fields. They complete a written test that may include the use of ratio/proportion, dosage calculation, metric and household equivalents, Roman numerals, abbreviations, and general math including percentages, among other medical math-related problems.

Medical Terminology – This competition evaluates the knowledge of medical terminology and abbreviations used by an individual preparing for employment in the health occupations fields. Competitors will demonstrate knowledge of medical word roots, prefixes, suffixes, medical word building and medical abbreviations. Content for the test is based on the Core Standards from the National Health Care Core Skills Standards Project.

Nurse Assisting – Competitors demonstrate knowledge and skill in performing personal care, encouraging patient independence, assisting with ambulation, and standard infection control procedures used in basic nurse assisting. Students also demonstrate knowledge and abilities in cardiopulmonary resuscitation and measurement of vital signs. Competitors must be familiar with basic anatomy, communications skills, legal/ethical issues and employment skills.

Practical Nursing – Competitors demonstrate their ability to perform skills consistent with practical nursing competencies as determined by the State Boards of Nursing. Students are judged on their knowledge of medical terminology, body structure and function, nutrition, medications and nursing care, and demonstrate job skills such as medication administration; physical assessment; nasogastric tube insertion; sterile dressing change and cardiopulmonary resuscitation.



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HOSPITALITY AND TOURISM (HOSP)

Baking and Pastry Arts (formerly Commercial Baking) – Competitors are challenged to meet production and quality standards expected by industry. The competition includes a written examination and practical exercises. Competitors demonstrate their knowledge and skills through scaling, mixing, preparing and baking products. The products include breads, rolls, cookies, laminated dough, pies, and assorted pastries. The contestant must also demonstrate their cake decorating skills. The competitor must work efficiently to produce quality products in a job-like setting.

Culinary Arts – The competition encompasses both hot and cold food preparation and presentation. Contestants will demonstrate their knowledge and skills through the production of a four-course menu. Judges evaluate contestants on their organization, knife skills, cooking techniques, creative presentation, sanitation food safety techniques, and the quality and flavor of their prepared items.

***Culinary Quiz Bowl** – A team of 3-5 students participate in a timed live quiz bowl and complete a written exam based on culinary and hospitality knowledge.

***MRE Challenge** – A team of two students use 6-8 various MREs (Meals Ready to Eat) and create a full menu, including an entrée, appetizer, beverage, and dessert. The only materials permitted are those contained within the MREs and within the community spice cabinet, and teams may not use any additional ingredients or methods of preparation.

Restaurant Service – Contestants use skills required in the "front of the house" of a fine dining restaurant. Students must provide great service and guest relations in the dining room including table set up, greeting guests, description of menu and specials of the day, taking orders, serving, and clearing each course, preparation and presentation of the check and closing remarks.

***Wedding Cake Design** – A team of two students design a 3-tiered wedding cake and execute the preparation on site. Students participate in an interview regarding their creative process and technical abilities. Cakes and frostings must be prepared in advance; electrical equipment is not allowed during the competition.

NOTE: This contest may shift to a national demonstration contest (Wedding Cake Decoration). The announcement will be made by November 1. If the contest becomes a National Demonstration Contest, the Florida-only technical standards will be revised to align with the national standards.



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HUMAN SERVICES (HUM)

Barbering –The competition is divided into four separate skill performance tasks including haircutting, hair styling, hair color, beard design and coloring. Creativity is assessed in the creative cut and beard design, while haircutting is evaluated in the recreation of men’s haircuts from a photograph. The competition will include an interview which consists of creating a mini resume with completion of a job application and actual interview.

Cosmetology – Students demonstrate their skills in hair color, haircutting, hair styling and long hair design in separate tests. All work is performed on mannequins, so everyone begins with the same model and the same type of hair. Competitors will perform a woman’s cut from a finished photo. They will also create one uniform layered haircut. A display of creativity is seen in the long hair segment of the competition where these future salon professionals demonstrate their own design skills.

***Cosmetology Quiz Bowl** – A team of 3-5 students participate in a timed live quiz bowl and complete a written exam based on cosmetology knowledge.

Early Childhood Education – Contestants prepare a written lesson plan and take a written test assessing their knowledge of child development and effective teaching strategies, demonstrate their understanding of the unique age-related learning characteristics of young children and the relevant social interactions as they implement the lesson.

Esthetics – The competitors are evaluated on their techniques and professionalism in the field of skin care. Competitors are tested in two different soft skill tasks including a written knowledge exam covering the fundamentals of skin care and oral professional presentation. Additionally, competitors are tested in four technical skill performance tasks consisting of a facial cleansing massage; basic facial; beauty makeup; and fantasy makeup applications. An emphasis on safety and infection control measures will be used in all segments of the skill performance areas. A live model is used for the competition.

***Hair Weave** – Contestants demonstrate their ability to create an original weave style comparable to industry standards using sewing &/or bonding, cutting, and styling techniques. The style must be an original, creative, weave design, and should show evidence of advanced skill level. The style must include attaching, shaping & thermal styling of artificial hair.

NOTE: This contest may shift to a national demonstration contest (Natural Hair Design and Braids). The announcement will be made by November 1. If the contest becomes a National Demonstration Contest, the Florida-only technical standards will be revised to align with the national standards.

Nail Care – The contest consists of six separate segments; oral communication skills, acrylic application, tip and light-cured enhancement overlay application, nail polish application, nail art, pedicuring and a written exam. The practical applications evaluate the contestant's ability to perform the most common nail services in the salon today.



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INFORMATION TECHNOLOGY (ITS)

Computer Programming – Competitors demonstrate knowledge of computer programming, describe how programs and programming languages work, and describe the purposes and practices of structured programming. The competition may include a computer programming problem consisting of background information and program specifications. An appropriate (successfully executable) computer program from design notes and instructions will be developed. Each project's specifications are written for Visual Basic, Java, C#, C++, and RPG.

Cybersecurity – A team of two students display knowledge of industry standard processes and procedures for hardening an end point or stand-alone computing device, and demonstrate abilities to securely provision operating systems, software, and configure security at initial provisioning stages, manage switch security, and demonstrate hardening of servers against attacks.

Information Technology Services – Contestants compete in modules designed to assess their knowledge as an IT service professional. The contest will challenge contestants to correct end-user computing issues, configure and secure networks, manage virtual machines, navigate and modify Windows registry, deploy operating systems, leverage troubleshooting software and tools, identify virus and malware origins, work with mobile devices, and proficiently use command line interfaces. Additionally, contestants display strong interpersonal skills (such as communication, teamwork, and honesty).

Internet of Things and Smart Home – The competition tests each competitor's preparation for employment and recognizes outstanding students for excellence and professionalism in the field of home technology integration. The competitors will complete a hands-on demonstration of the installation and troubleshooting of "smart home" residential products including bulbs; thermostats; locks; alarms; sensors; cameras; speakers; home theater systems; computer networking; and video security equipment. Construction of the various interconnecting cables such as cat 6/networking cables, coax cables and low and high voltage residential wiring will also be necessary. Competitors will configure and secure networks, update firmware/software and configure operating system settings.

Internetworking – The competition focuses on testing the networking knowledge and hands-on ability of the competitors. The hands-on component demonstrates the abilities of the competitor to make cables, troubleshoot network systems, configure routers, switches and servers, and to deliver customer service in a technical assistant center environment. The competitors will find errors in WAN and LAN networks; do a full network configuration using routers, switches, and servers; talk a technician through an error they are having on their network; and take an online certification-type test. Server skills that will be scored include, but are not limited to DNS, Active Directory and DHCP.

Technical Computer Applications – Contestants demonstrate installation, configuration and use of Windows, Mac OSX and Linux Professional Operating Systems and one or more integrated office suite packages including email, word processing, spreadsheet applications, database applications, web page development, money management applications, presentations applications, internet browser applications, and related applications.

Telecommunications Cabling – This competition tests worldwide industry standards related to cabling and connectorization for data and voice connections, physical and logical networks and signal transmission. Competitors demonstrate skills in fiber and copper cable termination, pulling and mounting cabling, patch panel installation and termination, installing jacks, cable and fiber optic testing and troubleshooting, and providing customer service. The competition stresses safety in all activities.



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LAW, PUBLIC SAFETY AND SECURITY (LAW)

Crime Scene Investigation – A team of three contestants will demonstrate basic skills associated with working a crime scene. Team members will take a test assessing overall crime scene knowledge. They will process a crime scene to include searching, identifying evidence, measuring, photographing, and preparing a sketch. Team members will also demonstrate basic crime scene skills such as lifting a fingerprint, swabbing serological evidence, packaging evidence or similar skills. The team will interpret common crime scene evidence such as classifying a fingerprint pattern. Finally, the team will complete narratives, crime logs and similar paperwork.

Criminal Justice – This contest utilizes both written examination and practical exercises to evaluate the contestants' abilities and knowledge of the field. The contestants demonstrate their knowledge and application of U.S. Constitutional Law, written and verbal communications skills, and their ability to manage an entry-level law enforcement position.

Emergency Medical Technician – The competition evaluates the ability of a team of two to perform as Emergency Medical Technicians with the National Registry Patient Assessment Technical Scope of Practice Standards as defined by National Highway Traffic Safety Administration, the most current American Heart Association CPR/ECC guidelines, and the AAOS Emergency Care and Transportation of the Sick and Injured. Teams complete three rounds related to scenarios provided.

Firefighting – The Firefighting contest evaluates safety; breathing apparatus; fire streams; ladders, ropes, knots, and hoses; fire control; ventilation; emergency medical care and rescue; and protecting fire cause evidence. Judges evaluate students using standards established by the National Fire Protection Association (NFPA).



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LEADERSHIP AND OCCUPATIONAL (LEAD)

Action Skills – A student prepares and presents a five- to seven-minute demonstration of an occupational skill in an area related to the student’s CTE coursework. Contestants use examples, experiments, displays or practical operations to clearly explain their skills using contestant-prepared visual aids. *(Participation in this contest is limited to students who have who are classified under the provisions of Public Law 105-17, Individuals with Disabilities Education Act, 1997)*

American Spirit – A team of three students prepare a notebook documenting their SkillsUSA chapter’s community service, patriotism and citizenship, and promotion of career and technical education projects that demonstrate a belief in the American way of life and the purposes of SkillsUSA.

Career Pathways Showcase – A team of three students use their course of study as the basis of a project that will benefit their class, school, community, or industry. The project must highlight an aspect of their career cluster training. Upon completion of the project, the students develop a display and use it within their community to explain their training and their project.

Chapter Business Procedure – A team of six demonstrates knowledge of parliamentary procedure in both a written exam and a team demonstration. The written exam covers questions related to materials found in Robert’s Rules of Order— Newly Revised. During the presentation, the team will demonstrate the running of a typical business meeting using a standard order of business. During the presentation, the team must properly insert into the order of business the secretary’s minutes, treasurer’s report and business items identified by the technical committee. In addition to the debate and transaction of the business items, teams will also properly demonstrate at least six different parliamentary procedure motions, including at least one of each of the following: main, privileged, subsidiary, incidental and motions that bring back issues to the floor. Minutes of the demonstration will be read by the secretary upon completion.

Chapter Display – SkillsUSA student members build a three-dimensional display that articulates the annual SkillsUSA competition theme. The members of the chapter build the display and three students present information about the display during a presentation and interview with judges.

Community Action Project – A team of two contestants develop, execute, document, and present a project that was completed in their community or school which provides a benefit to the community or the school, and to evaluate local activities that benefit the community and to recognize excellence and professionalism in community service. *(Participation in this contest is limited to students who have who are classified under the provisions of Public Law 105-17, Individuals with Disabilities Education Act, 1997)*

Community Service – SkillsUSA chapters present their best community service project for the year. A team of three contestants prepare a notebook which reports their chapter's community service project and a live presentation to a panel of judges.

Customer Service – The contest involves live, role-playing situations. Contestants demonstrate their ability to provide quality customer service, including telephone and computer skills, communications, problem solving, conflict resolution and business etiquette.

Employment Application Process – Contestants participate in employment interviews to demonstrate readiness in applying for employment and their understanding of the process. Contestants submit a resume and portfolio, which is used by interviewers during their interviews. *(Participation in this contest is limited to students who have who are classified under the provisions of Public Law 105-17, Individuals with Disabilities Education Act, 1997)*



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Entrepreneurship – A team of four students demonstrate knowledge in starting their own businesses by developing business plans that identify needed products or services in a local market. Judges evaluate with an emphasis on financial planning and practicality of product/service. Teams give oral presentations based upon their written plans and the team must successfully answer questions by a team of judges in response to typical problems encountered by entrepreneurs during their first year of business.

Extemporaneous Speaking – Contestants deliver a three- to five-minute speech on an assigned topic with five minutes of advance preparation. Judges evaluate students on voice, mechanics, platform deportment, organization, and effectiveness.

Facilithon: Leadership in Facilities Management (*Demonstration Contest*) – This competition tests the student’s ability to thrive in a facility management environment through a 50-question common-sense quiz, a 10-minute role play, and the FM Challenge, an emergency scenario that the student must immediately react to.

Job Interview – The competition is divided into three phases: completion of employment applications; preliminary interview(s) with a receptionist; and in-depth interview(s). Competitors are evaluated on their understanding of employment procedures faced in applying for positions in the occupational areas in which they are training. A professional portfolio component was introduced at the 2023 national conference and will be scored in 2024 at the state and national levels.

Job Skill Demonstration A – Contestants demonstrate and explain an entry-level skill used in the occupational area for which they are training through a five- to seven-minute presentation or demonstration. Competitors in Job Skill A must demonstrate a career objective in an occupational area included in one of the contest areas of the SkillsUSA Championships.

Job Skill Demonstration Open – Contestants demonstrate and explain an entry-level skill used in the occupational area for which they are training or outside of their training program through a five- to seven-minute presentation or demonstration. Students may demonstrate any technical skill.

Occupational Health and Safety – A team of three demonstrates the safety and health endeavors of their respective technical programs by assembling a scrapbook that highlights important programs, activities and events related to their school’s health and safety program. The competition encourages chapters to be active in all aspects of SkillsUSA. The health and safety activities of the chapters will be evaluated on the planning, organization and outcome of four projects. Students are interviewed and portfolios are scored by a panel of judges based on the quality and content of the books and on the candidates’ presentation during the interview process.

Opening and Closing Ceremonies – Each team includes seven registered members in the roles of president, vice president, parliamentarian, reporter, treasurer, secretary, and historian. The team completes a teamwork and oral presentation contest demonstrating their understanding of the symbolic representation of the colors and assembled parts of the SkillsUSA emblem. The contest is a demonstration of the SkillsUSA Opening and Closing Ceremonies conducted according to the script and description as printed in the SkillsUSA Championships Technical Standards.

Pin Design – Students present their final design along with their artwork and participate in an oral presentation regarding all aspects of their creation of the design. Contestants will explain how the pin represents the state, its unique qualities and why another SkillsUSA student or adult member would want to wear it. The competitor will create a tabletop display that represents the process they used to create the design.



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Prepared Speech – This competition requires students to deliver a speech five to seven minutes in length on a common theme established by National SkillsUSA. Contestants demonstrate their ability to present thoughts relating to a central theme clearly and effectively, and on voice, mechanics, and platform deportment.

Promotional Bulletin Board – SkillsUSA chapters create bulletin board displays based on the annual SkillsUSA theme. The bulletin boards promote SkillsUSA, career and technical education in general and related occupational information. An accompanying notebook documents the development and construction of the bulletin board. A team of three students delivers an oral presentation explaining the process, purpose, and educational value.

***Promotional Poster** – A team of two students use provided materials to create a poster to promote a given theme. Teams must adhere to a budget to purchase creative supplies and participate in an interview with judges regarding their creative process.

Quiz Bowl – The Quiz Bowl competition tests a team of five to seven competitors on their ability to quickly respond to knowledge questions covering academics, current events and SkillsUSA professional development curriculum. Teams will demonstrate communication skills, teamwork, problem solving and time-management skills by determining and presenting the answer to each question clearly within the five-second time frame.

Related Technical Math – By taking a written test, competitors demonstrate the skills required to solve mathematical problems correctly that are commonly found in the skilled trades and professional and technical occupations. Skills demonstrated include addition; subtraction; multiplication; division of whole numbers; fractions and decimals; applied word problems; percentages; ratio proportions; averages; area; volume; metric measures; and traditional (Imperial) measures and trigonometry.

T-Shirt Design – Students present their T-shirt and create a professional portfolio that documents the process they used to create the design. Competitors will participate in an oral presentation regarding all aspects of their creation of the design and explain how the T-shirt represents their state, its unique qualities and why another SkillsUSA student or adult member would want to wear the shirt.



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MANUFACTURING (MFG)

Additive Manufacturing – Contestants demonstrate their ability to use 3D CAD, design for the advantages of additive manufacturing, account for limitations of major 3D printing technologies, advocate for design choices, and use creativity to solve physical problems with real constraints.

Automated Manufacturing Technology – The contest evaluates teams of three for employment in integrated manufacturing technology fields of computer aided drafting/design (CAD), computer aided manufacturing (CAM), and computer numerical controlled machining (CNC). CAD operators construct the part geometry; the CAM operator generates the tool paths; and the CNC operator sets up and machines the part.

CNC 3-Axis Milling Programmer – The contest assesses the ability to write the CNC program for a part, drawing and materials, determine tool offsets, setting up the machine and producing a part on a milling machine in such areas as: basic machining skills, CNC programming, setting up a CNC machine, performing mathematical calculations related to CNC, communication, and inspection.

CNC Programmer – Contestants compete in NIMS Level I & II manual machining skills and knowledge areas including operation of manual milling machines, lathes, drill presses, and surface grinders. Contestants demonstrate knowledge of CNC programming skills using a PC and related knowledge and skill in the areas of engineering drawing interpretation, GD&T, technical math, machining practices, use of precision measuring/hand tools and ability to communicate verbally using proper industry terminology.

CNC 2-Axis Turning Programmer – The contest assesses the ability to write the CNC program for a part drawing and materials, determine tool offsets, setting up the machine and producing a part on a lathe in such areas as: basic machining skills, knowledge of CNC programming, setting up a CNC machine, performing mathematical calculations related to CNC, communication, and inspection.

CNC 5-Axis Milling Programmer (*Demonstration Contest*) – This competition evaluates the ability to plan independently and program jobs for 5-Axis CNC milling machines and provides instructions for operators to execute. Competitors program part features and generate NC code using CAM software, troubleshoot G-code programming errors, interpret prints (including geometric dimensioning and tolerancing or GD&T), measure/gauge parts, and demonstrate their theoretical knowledge of 5-Axis CNC milling machine configuration, setup and operation.

Mechatronics – Contestants assemble, adjust, and test an automated machine system, troubleshoot, and repair a faulty machine system and take a comprehensive written test. Teams of two compete in a construction phase and a troubleshooting phase, as well as an oral interview.

Residential and Commercial Appliance Technology (*formerly Major Appliance Repair Technology*) – Contestants rotate through stations diagnosing common service issues on refrigerators, washers, dryers, ranges, microwave ovens and dishwashers. Contestants also demonstrate their ability to braze by assembling a copper and steel tubing project per schematic provided.

Robotics and Automation Technology – A two-person team demonstrates operation of a five-axis servo-robot along with a set of sensors and motorized devices to resolve a simulated production process problem.

Technical Drafting – The contest focuses on the solution of industry-developed problems by applying appropriate technical drafting skills and tools including computer-aided drafting (CAD).



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TRANSPORTATION, DISTRIBUTION AND LOGISTICS (TRNS)

Automotive Maintenance and Light Repair (MLR) (*High School Only*) – The contest is consistent with the auto maintenance and light repair task list outlined in guidelines published by the National Institute for Automotive Service Excellence (ASE) and the ASE Education Foundation.

Automotive Refinishing Technology – Contestant demonstrate the ability to perform jobs and skills based on the task list outlined by the National Institute for Automotive Excellence (ASE) and the National Automotive Technicians Education Foundation (NATEF). The competition includes a series of workstations including surface preparation; spray gun operation; paint mixing, matching, and applying; solving paint applications problems; determining finish defects, causes, and cures; and utilizing safety precautions.

Automotive Service Technology – Contestants 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). Workstations consist of on-vehicle, simulations, bench and component testing, and a written test. Contestants demonstrate technical competency, accuracy, quality, safety, and ability to follow directions.

Collision Damage Appraisal – The contest aligns 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). Contestants demonstrate their ability to perform jobs and skills based on handwritten estimating, computerized estimates/appraisals, frontal damage, unibody damage, light mechanical damage, rear damage including quarter panel replacement.

Collision Repair Technology – Contestants 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 workstations to assess skills in metal straightening, welding, plastic repair, and structural analysis.

Diesel Equipment Technology – Students complete stations related to testing and troubleshooting engines, electrical and electronics systems, and power train systems including chassis, transmissions, and carriers. Contestants also demonstrate skills in hydraulic systems, vehicle inspections, fundamental failure analysis, brake systems, air-conditioning systems, and general shop skills.

Marine Service Technology – Test stations include aspects of 2- & 4- stroke outboard, stern drive and inboard troubleshooting and repair. Students demonstrate proficiency in marine electrical/ignition systems, fuel systems, cooling systems, lubrication systems, drive/transmission systems, and boat and trailer rigging and repair.



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CONTEST	CLUSTER	TEAM#	MS	HS	CPS	FL-ONLY	DEMO	SPECIAL NEEDS
3-D Visualization and Animation	ART	2		X	X			
Action Skills	LEAD		X	X	X			X
Additive Manufacturing (MS team of 3)	MFG	2	X	X	X			
Advertising Design	ART			X	X			
American Spirit	LEAD	3	X	X	X			
Architectural Drafting	ARCH			X	X			
Audio/Radio Production	ART	2		X	X			
Automated Manufacturing Technology	MFG	3		X	X			
Automobile Maintenance and Light Repair	TRNS			X				
Automotive Refinishing Technology	TRNS			X	X			
Automotive Service Technology	TRNS			X	X			
Baking and Pastry Arts	HOSP			X	X			
Barbering	HUM			X	X			
Basic Health Care Skills	HEALTH			X				
Biotechnology Knowledge Bowl	HEALTH	4		X	X	X*	X*	
Cabinetmaking	ARCH			X	X			
Career Pathways	LEAD	3		X	X			
Carpentry	ARCH			X	X			
Chapter Business Procedure	LEAD	6		X	X			
Chapter Display	LEAD	3	X	X	X			
CNC 2-Axis Turning Programmer	MFG			X	X			
CNC 3-Axis Milling Programmer	MFG			X	X			
CNC 5-Axis Milling Programmer	MFG			X	X		X	
CNC Programmer	MFG			X	X			
Collision Damage Appraisal	TRNS			X	X			
Collision Repair Technology	TRNS			X	X			
Commercial Roofing	ARCH			X	X		X	
Commercial sUAS Drone Technology	ENG	2		X	X			
Community Action Project	LEAD	2	X	X	X			X
Community Service	LEAD	3	X	X	X			
Computer Programming	ITS			X	X			
Computer Science and Robotics	ENG	3	X					
Cosmetology	HUM			X	X			
Cosmetology Quiz Bowl*	HUM	3-5		X	X	X		
Crime Scene Investigation	LAW	3		X	X			
Criminal Justice	LAW			X	X			
Culinary Arts	HOSP			X	X			
Culinary Quiz Bowl*	HOSP	3-5		X	X	X		
Customer Service	LEAD			X	X			

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CONTEST	CLUSTER	TEAM#	MS	HS	CPS	FL-ONLY	DEMO	SPECIAL NEEDS
Cyber Security	ITS	2		X	X			
Diesel Equipment Technology	TRNS			X	X			
Digital Cinema Production	ART	2		X	X			
Early Childhood Education	HUM			X	X			
Electrical Construction Wiring	ARCH			X	X			
Electronics Technology	ENG			X	X			
Emergency Medical Technician	LAW	2		X	X			
Employment Application Process	LEAD			X	X			X
Engineering Technology and Design	ENG	3		X	X			
Entrepreneurship	LEAD	4		X	X			
Esthetics	HUM	Model		X	X			
Extemporaneous Speaking	LEAD		X	X	X			
Facilithon	LEAD			X	X		X	
Firefighting	LAW			X	X			
First Aid-CPR	HEALTH			X	X			
Graphic Imaging Sublimation	ART			X	X			
Hair Weave *	HUM			X	X	X*	X*	
Health Knowledge Bowl	HEALTH	4		X	X			
Heating, Ventilation, Air Conditioning and Refrigeration	ARCH			X	X			
Industrial Motor Control	ARCH			X	X			
Information Technology Services	ITS			X	X			
Interactive Application and Video Game Development	ART	2		X	X			
Internet of Things and Smart Home	ITS			X	X			
Internetworking	ITS			X	X			
Job Interview	LEAD			X	X			
Job Skill Demonstration A	LEAD		X	X	X			
Job Skill Demonstration Open	LEAD		X	X	X			
Marine Service Technology	TRNS			X	X			
Masonry	ARCH			X	X			
Mechatronics	MFG	2		X	X			
Medical Assisting	HEALTH			X	X			
Medical Math	HEALTH			X	X			
Medical Terminology	HEALTH			X	X			
Mobile Robotics Technology	ENG	2	X	X	X			
MRE Challenge*	HOSP	2	X	X	X	X		
Nail Care	HUM	Model		X	X			
Nurse Assisting	HEALTH			X	X			
Occupational Health and Safety	LEAD	3		X	X			
Opening and Closing Ceremonies	LEAD	7	X	X	X			

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CONTEST	CLUSTER	TEAM#	MS	HS	CPS	FL- ONLY	DEMO	SPECIAL NEEDS
Photography	ART			X	X			
Pin Design	LEAD		X	X	X			
Plumbing	ARCH			X	X			
Practical Nursing	HEALTH			X	X			
Prepared Speech	LEAD		X	X	X			
Principles of Engineering Technology	ENG			X	X			
Promotional Bulletin Board	LEAD	3	X	X	X			
Promotional Poster*	LEAD	2	X	X	X	X		
Quiz Bowl	LEAD	5-7		X	X			
Related Technical Math	LEAD			X	X			
Residential and Commercial Appliance Technology	MFG			X	X			
Restaurant Service	HOSP			X	X			
Robotics and Automation Technology	MFG	2		X	X			
Robotics: Urban Search and Rescue	ENG	2	X	X	X			
Team Engineering Challenge	ENG	3	X					
TeamWorks	ARCH	4		X	X			
Technical Computer Applications	ITS			X	X			
Technical Drafting	MFG			X	X			
Telecommunications Cabling	ITS			X	X			
Television (Video) Production	ART	2		X	X			
T-Shirt Design	LEAD		X	X	X			
Video News Production	ART	4		X	X			
Web Design and Development	ART	2		X	X			
Wedding Cake Design*	HOSP	2*	X	X	X	X*	X*	
Welding	ARCH			X	X			
Welding Fabrication	ARCH	3		X	X			
Welding Sculpture	ARCH			X	X			

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