



Contest Singles Contest and Project Guide

(2009 edition)



Computer Maintenance Technology

Contest and Project Guide Introduction

Congratulations on your participation in SkillsUSA. Your choice to be involved in SkillsUSA aligns you and your training program with a national network of business, industry and education professionals who are committed to national technical standards and rigorous training techniques. This guide has been developed to assist you and your students in meeting the standards set by some of America's finest corporations and technical and trade associations.

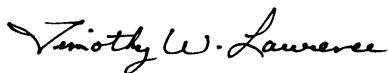
This guide is designed to assist you in preparing your students for state and national competition in the SkillsUSA Championships program. However – and just as importantly – this guide should be used to help all students in your training program to practice national technical standards through the tests and projects included.

You will find a variety of materials and tips inside to assist you in your instruction and contest preparation. To be sure you and your students receive the maximum benefit from these materials, here are a few tips:

1. The regulations and standards should be reviewed completely and followed exactly. Know the regulations and rules to be followed. In competition, a thorough knowledge of the rules is the first step to success.
2. Analyze the rating sheets. The rating sheet should be used as an evaluation tool to measure how well students perform to the standards and regulations.
3. Practice using the contest projects for your contest (if they've been included in this guide). These are the 2008 projects from the national competition. Using them gives you the advantage of practicing using a recent contest.
4. Read the Insider's Guide from *SkillsUSA Champions* magazine. Reading them now may seem to be a low priority, but these tips are from those who have had a national competition experience and there could be some small hints that give you big advantages (not all contests are covered in this section).
5. Make sure students study related technical knowledge. A written test on technical and academic knowledge can count up to 25 percent of the total possible score (see the General Regulations section).
6. Check online for the contest updates. This will provide you with any recent changes to contest regulations. Find the updates at www.skillsusa.org/compete/updates.shtml.
7. Make sure students have an up-to-date, one-page résumé. The résumé is part of a student's score. A sample résumé is included in this guide.
8. Finally, students need to be prepared to demonstrate solid employability skills. They will be tested with a Professional Development Test and through an Oral Professional Assessment. Have students brush up on interview skills, eye contact and a firm handshake. Make sure students study Levels 1 and 2 of the SkillsUSA Professional Development Program (PDP), including the SkillsUSA Student Workbook. Each year at the national competition, contest ties are broken using the score from the PDP test. If you do not have the PDP, go to www.skillsusa.org/educators/pdp.shtml. Practice using the sample Professional Development test which is included with this guide.

Being well prepared is not only an important aspect of success in competition, it's important for success in life. The SkillsUSA Championships program is a motivator for excellence. It drives quality instruction and quality learning through testing to national standards. I hope this guide will assist you in continuing to provide a quality experience for your students as "Champions at Work."

Best wishes,



Timothy W. Lawrence, Executive Director, SkillsUSA

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INTRODUCTION

Many people consider the SkillsUSA Championships to be the preeminent showcase of public technical education in the United States. The championships recognize career and technical students who excel in their occupational areas, as well as in the leadership development activities that are such an integral part of the SkillsUSA program in the classroom.

The involvement of industry in the SkillsUSA Championships program is essential. Leadership, health occupations, skilled and technical sciences experts donate their time to serve as contest judges and as technical committee members. They assume responsibility for selecting the skills that are to be judged, determining the format of the contests and establishing the standards by which contestants will be judged.

Besides showcasing students' skills, the SkillsUSA Championships, by the very nature of competition, urges students to take pride in their work. It also provides prospective employers with an opportunity to see dedicated, motivated potential employees at work.

To continue to meet the needs of both these potential employees and prospective employers, the lines of communication between technical education schools and industry must be kept open. Educators need to be able to identify industry's needs and, in turn, develop appropriate curricula.

SKILLSUSA WORK FORCE READY SYSTEM

In conjunction with the "Champions for Change" grant that the W.K. Kellogg Foundation awarded SkillsUSA in 2006, SkillsUSA is developing the Work Force Ready System that we expect to become a hallmark in documenting the entry-level job readiness of people with skills in the technical and career sciences.

The *SkillsUSA Championships Technical Standards 2009* represents the backbone of the

SkillsUSA Work Force Ready System. All of the system's assessments and certificates are based upon the procedures, protocols, competencies and criteria established by the respective national technical committees of the SkillsUSA Championships, as published in the technical standards.

Overview

SkillsUSA is proud to introduce the SkillsUSA Work Force Ready System, which helps students excel and become champions as they prepare for successful careers. The system assesses and documents the entry-level technical proficiency using a unique collaboration between employers and educators that simultaneously improves instructional programs.

The SkillsUSA Work Force Ready System provides a technical skill assessment that can be complemented by SkillsUSA's existing Professional Development Program (PDP) and Career Skills Education Program (CSEP) curricula. The system is a strategic part of the SkillsUSA mission that will help students become "champions at work." It will help SkillsUSA members build a story of what they've achieved through their competitive and chapter experiences. It will help teachers and advisors engage with the system to enhance instruction in classrooms across the country. It will help SkillsUSA continue in what it does best: empower members to become world-class workers and responsible American citizens.

All SkillsUSA members will be influenced by the SkillsUSA Work Force Ready System, including teachers and corporate partners. Participants in six selected contests at the 2007 national championships were the first to benefit from the program, which has been developed by a collaborative team. Over the last several months, market research with state supervisors, teachers and state administrators have guided the development of the system. Additionally, a Technical Advisory Committee of industry, education and federal policy leaders has offered guidance to SkillsUSA. Nearly 2,000 people have had influenced the design of the SkillsUSA Work Force Ready System.

1. Skill Point Certificate

The Skill Point Certificate will be awarded only to SkillsUSA member students who reach or exceed a threshold score in a SkillsUSA Championships contest. Competitors achieving the cut score will be awarded the Skill Point Certificate, regardless of contest ranking or medal standing.

At the 2007 SkillsUSA Championships, Skill Point Certificates were awarded in Collision Repair Technology, Commercial Baking, Graphic Communications, Internetworking, Power Equipment Technology and Welding. Certificates were awarded in 20 more contests at the 2008 SkillsUSA Championships, and in an additional 20 contests in 2009. Eventually, all “official” contests at the national championships will award Skill Point Certificates.

Along with a national gold, silver or bronze medal, the Skill Point Certificate represents the pinnacle of achievement in demonstrating proficiency and workplace readiness in the student’s occupational specialty. Each Skill Point Certificate will carry the logos of the companies represented on that contest’s national technical committee.

2. Skill Connect Assessments

Both SkillsUSA and non-SkillsUSA students will have an opportunity to purchase and take an assessment (by online, proctored paper-and-pencil and/or hands-on testing) based on the competencies and criteria established in the SkillsUSA Championships. Those candidates achieving a cut score in the assessment test will be awarded a Skill Connect Certificate, very similar to the Skill Point Certificate. By the 2010 SkillsUSA Championships, SkillsUSA will create fee-based Skill Connect assessment tests for 46 technical contests plus the PDP and CSEP programs.

The first six online assessments were introduced in early 2008.

3. Skill Connect Portfolio

The Skill Connect Portfolio will offer a Web-based vehicle for member students to

document their comprehensive SkillsUSA experiences, including competition achievements, leadership and Program of Work accomplishments. The Skill Connect Portfolio will significantly complement a SkillsUSA graduate’s job application, even more so when appended to a Skill Point or Skill Connect certificate.

This feature is scheduled to launch before the 2009 SkillsUSA Championships.

4. Skill Connect Excelsior

The Skill Connect Excelsior will offer SkillsUSA advisors/teachers access to a centralized online resource that will:

- House information about the Work Force Ready System
- Provide technical support for teachers/advisors
- Allow teachers to authenticate themselves as proctors and administrators for Skill Connect Assessments
- Provide the process for setting up the Skill Connect Portfolio
- Facilitate printing of documents earned from the Skill Connect Assessment and Portfolio
- Enable teachers to give feedback on the assessments and the Work Force Ready System
- Assist teachers in monitoring their programs by allowing them to view student scores and progress

The pricing and completion schedule for Skill Connect Excelsior are in development. Research disclosed that teachers desire assessments that connect to an entire program of technical and classroom support, including an opportunity to offer feedback.

SKILLSUSA CHAMPIONSHIPS ORGANIZATION

The SkillsUSA Championships is governed by policies established by the board of directors of SkillsUSA Inc. These policies cover donations and awards, SkillsUSA Championships committee composition and responsibilities,

and National Leadership and Skills Conference host state responsibilities.

The SkillsUSA Championships is organized as follows:

1. Board of Directors of SkillsUSA Inc.
2. SkillsUSA Championships Executive Committee
3. SkillsUSA Championships director
4. Individual technical committees for each area of competition
5. National Education Teams

INTRODUCTION OF NEW CONTESTS

There are many requests for the establishment of new contests in the SkillsUSA Championships program. In determining the addition of new events to the SkillsUSA Championships, either for demonstrations or for final approval as an official contest, the staff of SkillsUSA will apply the following principles as a test of need:

1. Is there a significant number of members in SkillsUSA who want the contest? If the instructional area related to a potential contest is outside of the normal service areas of career and technical sciences, including health occupations, or overlaps with other traditional service areas (e.g., culinary arts in home economics), a special study of the numbers of members SkillsUSA serves must be made and a case must be made on that basis to the SkillsUSA board of directors.
2. Are there jobs in the occupation and an industry that is nationally significant? Is the industry willing to provide support to the contest?
3. Special attention should be given to areas of new and changing technology as driven by industry.
4. Leadership contests will be added based upon solid proposals from the memberships that indicate:
 - Value to students in relationship to future employment

- Demonstrated support from the membership, verifying potential participation

The following steps must be followed before a new contest can be approved:

1. A minimum of 10 state associations must support the addition of a new contest for a contest to be seriously considered.
2. A SkillsUSA Championships technical committee representing at least two different companies or professional organizations will be established to develop contest rules and establish the necessary support for personnel, contest equipment and prizes to introduce the contest.
3. New contests introduced at the national championships are given “demonstration” status. The contest should qualify for “official” contest status by the third year.
4. Preliminary contest rules will be printed and distributed to all state directors by Nov. 1, preceding the demonstration with states invited to conduct the contest and participate in the national demonstration.
5. Contest operation and participation regulations will be reviewed by national staff to determine feasibility of official inclusion of the contest in the SkillsUSA Championships.
6. Official inclusion of new SkillsUSA Championships contests will be approved by the SkillsUSA board of directors.
7. New areas for contests may be demonstrated to solicit support from the states to justify the organization of a demonstration contest the following year.

GENERAL REGULATIONS

1. These *SkillsUSA Championships Technical Standards* are written as guidelines for the administration of national contests. They should serve as models for administration of local, regional and state contests but should not be considered binding upon state associations in conducting state-level SkillsUSA Championships.
2. All problems and exercises mentioned in the *SkillsUSA Championships Technical Standards* are sample exercises only.
3. A careful and thoughtful analysis of the skills and knowledge required for successful employment in technical, skilled and service occupations, including health occupations, will identify a core of technical and scientific principles that students should understand. Knowing these principles will increase their chances of succeeding and progressing in their fields and form a basis for understanding and applying new technology as it is introduced in their respective fields. Competitors are expected to understand such principles as they apply to their skill areas. They will be expected to know and demonstrate the following:
 - a. Mathematics: Addition, subtraction, division and multiplication of whole numbers, common fractions, decimal fractions, ratio, proportion, percentage, average, area, volume, metrics and written problems specific to area of training
 - b. Engineering drawing/print interpretation and schematics related to specific areas of training
 - c. Reading comprehension/interpreting technical manuals
 - d. Completion of a job application form
 - e. Making an appointment for a job interview
 - f. Proper interview techniques
 - g. Responding clearly to oral questions
 - h. Safety knowledge (Some contests require evidence of safety training. Students are encouraged to complete the Occupational Safety and Health Administration's [OSHA] 10-hour, Web-based CareerSafe course. For information, visit: www.careersafeonline.com/. Participants completing the safety training course will receive a wallet card from OSHA)
4. Begin checking SkillsUSA's Web site in September for any changes to these printed guidelines. All changes to the current year's competitions will be at: www.skillsusa.org/compete/updates.shtml.
5. Professional Development Program (PDP) Test:
 - a. Each individual contestant in both leadership and skill contests (except Action Skills, Building Maintenance and Quiz Bowl contestants) will be given a test taken from Levels 1 through 2 of the *Professional Development Program*. The following procedures will apply:
 1. The tests will be administered by the state association directors at the National Leadership and Skills Conference before the SkillsUSA Championships begins.
 2. The test results will be used in the event of a tie to determine first-, second- and third-place winners only.
6. Technical Skills-Related Written Test:
 - a. Written tests and problem-solving exercises covering skills and related information will be included as a part of each contest (with the exception of the Building Maintenance contest). The number of points allowed will not exceed 15 percent of the total possible points and will be determined by the technical committee. The following procedures will apply:
 1. The test will cover the appropriate math, technology, schematic/engineering drawing/print interpretation, safety, problem solving and related information needed for employment.

2. The test will be prepared or approved by the SkillsUSA Championships technical committee and may be given at the contest orientation meeting or on the day of the contest.
7. An oral professional assessment, such as a personal interview, explanation of skills to be performed, problem to be solved or other employability skills assessment, will be included as a part of each contest. The number of points allowed will not exceed 10 percent of the total possible points and will be determined by the technical committee.
8. All competitors will be required to bring a one-page, typewritten résumé and submit it to the national technical committee at the contestant orientation meeting. The résumé may be used by the technical committee for the oral professional assessment segment of the competition. A penalty of 5 percent of the total points will be assessed for failure to submit a résumé.
9. Competitors in contests that require verbal presentations must use the proper name of the national organization, "SkillsUSA." Contestants in American Spirit, Chapter Display, Community Service, Occupational Health and Safety, Outstanding Chapter, Promotional Bulletin Board and Tech Prep must exhibit the organization's proper name and logo. Failure to do so will result in penalty points being assessed by the national technical committee. Visit our Web site, skillsusa.org/about/logos2.shtml, for proper use of the logo.
10. There must be at least 12 contestants/teams in each official contest for the contest to be held. (Exceptions are Chapter Display, Occupational Health and Safety, Outstanding Chapter, Promotional Bulletin Board and health occupations contests.) In the event that less than 12 contestants participate for two years, the contest may be discontinued pending a decision by the SkillsUSA board of directors.
11. SkillsUSA Championships awards will be presented to the top three contestants in each division except for Total Quality Management (TQM), which is judged to a standard.
 - a. No ties will be permitted.
 - b. National finalists will be recognized with an appropriate designation on their SkillsUSA Championships participation certificates. The state association will determine designation as a finalist.
 - c. Decisions of the judges will be final. Interpretations of all contest rules will be made by the director of the SkillsUSA Championships.
12. The competencies listed in this publication under each occupational area are the basis for a quality technical instructional program from which our national contests are derived. The competencies have been listed to provide direction and assistance to state associations as they establish their district and state SkillsUSA Championships and to identify the scope of the national contest.

Who May Compete

13. Participants must be active SkillsUSA members in their respective divisions whose dues have been postmarked by midnight of March 1.
 - a. A policy exists whereby exceptions may be made under certain conditions. For details, contact your state SkillsUSA office.
14. Each national contest provides for individual entries unless the rules of the contest state that it is a team competition. States may enter one high school and one college/postsecondary student/team in each competition, unless otherwise stated in the specific contest rules.
 - a. High School contestants are students enrolled in a coherent sequence of courses or a career major that prepares the student for further education and/or employment related to technology, the health industry, trades or industry and is earning credit toward a high school diploma/certificate or its equivalent

during the school year immediately preceding the National Leadership and Skills Conference.

- b. College/postsecondary contestants are students enrolled in a coherent series of courses or a career major that prepares them for further education and/or employment related to technology, the health industry, trades or industry and who are earning credit toward a postsecondary degree/certificate during the school year immediately preceding the National Leadership and Skills Conference.

Note: College/postsecondary contestants may compete for only two years in the same contest.

15. Individual contestants may enter only one national championships contest annually. Participation must be approved by their state association.
16. Participants in national contests must be first-place winners selected on a competitive basis at the state level. In the event the first-place winner is unable to participate, the alternate must be the next highest-placing contestant at the state level who is able to participate. All contestants must qualify through state SkillsUSA approved contests. States may be disqualified from participation in a specific contest if they approve contestants who have not competed in a state contest. In team events, substitutions may be made if a team member(s) has to withdraw from the national competition. A full team must be registered.

The ability of the contestants to meet the standards of national competition must be considered before the state association certifies the contestant.

17. Participants must meet the eligibility requirements set forth in each contest description.
18. Judging Criteria
 - a. The judging criteria listed on each contest rating sheet contain the basic elements that will be considered in the

evaluation of the contestants' performance. The exact number of items evaluated and points assigned to each criterion may change from year to year depending on the complexity of the project.

- b. The rating sheets are intended to give contestants and advisors a basic understanding of the evaluation criteria and serve as a guide as they prepare for national competition.

Release of Contest Results

19. An analysis of contestant scoring and a ranking of the contestants will be available and accessible to every competitor on the SkillsUSA Web page within one week following the close of the national conference. The ranking of all competitors will be available and given to the state directors (or their appropriate designee) at the Awards Ceremony on Friday night.
20. The appropriate state official agrees not to use this information in any way that will violate any local, state or federal law and will protect each student's right of privacy as required by law.

How to Register

21. Only properly registered participants may enter SkillsUSA Championships contests. Proper registration requires:
 - a. Submitting official National Leadership and Skills Conference (NLSC) registration forms by the deadline (May 1, or 10 days following the state SkillsUSA Championships).
 - b. States may make changes and substitutes are allowed up to 4 p.m. on Tuesday during the week of the conference.
 - c. After June 1, the addition of contestants/teams must first be approved by the specific national technical committee chair.
 - d. In team leadership contests, teams may compete with one fewer team member in the case of an unforeseen circumstance (i.e., student becomes ill, is involved in an accident or simply

does not show up) as long as a full team was registered originally.

Procedure for Contestants

22. Contestants must wear their official contest clothing and report to the mandatory contest orientation meeting, as scheduled in the conference program, for instructions from the technical committee chairs. This is a critical meeting since technical committee chairs provide specific contest instructions and many times administer the written and oral tests at this meeting.
23. Participants must meet clothing requirements for the individual contests. For specific requirements, refer to the individual contest regulations.
 - a. The penalty for contestants who do not satisfy the clothing requirements will be a maximum of 5 percent of the total possible contest points.
 - b. All contestants are required to wear their official contest uniforms or official SkillsUSA attire to the Awards Ceremony when the winners are announced and the industry awards are presented. Inappropriately dressed contestants will be denied access to the awards platform.
24. During the contest, participants must work independently, without assistance from judges, teachers, fellow students or observers. Contestants will be disqualified for receiving such assistance.

Tools and Materials

25. Participants who do not bring the required tools and materials, as specified in the individual contest regulations, may be penalized two points for each item missing. Such penalties will be assessed by the contest chair. The contest chair may, at his or her discretion, furnish the required item(s) but may assess the two-point penalty per item.
26. It is strongly recommended that toolboxes not exceed 9"x14"x22". Contestants may bring more than one box. Toolboxes that

are bigger or cannot be carried by one person should have casters, wheels or a hand truck for movement to and from contest areas.

Observer Rules

27. It is in the spirit of competition and good sportsmanship to demonstrate professional courtesy to other competitors. Contestants shall in no way disrupt or interfere with the work or performance of fellow contestants or teams. Any contestant or team found to be in violation of this regulation may be at the risk of penalty or even disqualification in the case of a serious violation.
28. A roped or otherwise marked area will be designated for observers. No observers, including SkillsUSA advisors, will enter the designated contest areas without the approval of the SkillsUSA Championships technical committee.
29. No observers will talk or gesture to contestants.
30. Judges will disqualify contestants who accept assistance from observers.
31. No observers will be permitted in the contest holding room or at the contest orientation meeting unless specifically invited by the SkillsUSA Championships technical committee.
32. Additional limitations on observers, such as entering or leaving a contest area during a demonstration or sequence, may be posted to protect contestants from unnecessary distractions.
33. The technical committee chair may close the contest to observers if observers are seen to be communicating or aiding a contestant in any way or if safety demands such action.
34. Neither cameras with flash attachments nor recording devices of any kind will be permitted in any contest area without the consent of the SkillsUSA Championships director.

Contestants with Special Needs

35. The SkillsUSA Championships management team will make every effort to provide assistance/accommodations, as appropriate, to create equal opportunities and a level playing field for all contestants. No assistance will be provided that could be interpreted as giving the special needs contestant an unfair advantage. Advanced identification of the contestants and their special needs will be required. The following are examples of the types of assistance that are allowed:
- Special tables will be allowed for contestants who need to use wheelchairs.
 - Signers will be allowed to translate oral instructions given by the technical committee to deaf or hearing-impaired contestants.
 - Special tools and devices will be allowed for contestants with prosthetics or physical challenges such as a club foot, burn injury or amputation.
 - Contestants with dyslexia or other learning disabilities will be allowed assistance as determined by the complexity of the contest assignment.
 - Readers will not be allowed in contests where the use of technical manuals is required.
 - Hearing impaired contestants will be provided signers at contest orientations, at the startup of the competition (and throughout the day if required by the technical committee), and for the contest debriefing.

Models/Assistants

36. Nail Care models and assistants in Action Skills, Principals of Technology and Job Skills Demonstrations A and Open must be active SkillsUSA student members. They are not considered contestants and are not required to attend contestant orientation meetings.

SKILLSUSA CHAMPIONSHIPS CLOTHING REQUIREMENTS

- Contestants in the SkillsUSA Championships must wear the approved SkillsUSA Championships clothing or work uniform specified for their particular contests during competition or be subject to a maximum penalty of 5 percent of the total points.
- The clothing items referred to in these regulations are pictured and described in the *SkillsUSA Merchandise Catalog*, published annually by Midwest Trophy Manufacturing Co. Inc., the official SkillsUSA Supply Service. To request a catalog or place an order, call 800-324-5996 or fax 405-672-1308. Or, visit the Web site at: www.mtmrecognition.com/skillsusa/.

Note: Contestants with special needs regarding clothing requirements should contact Midwest Trophy. If satisfactory arrangements cannot be met in regard to clothing, the contestant may obtain a waiver from Midwest.

The original official red blazer, windbreaker style jacket, sweater or any other uniform with the old “SkillsUSA–VICA” or “VICA” emblem patch may still be worn.

- The clothing requirements apply only to the national contests. State associations may have different dress requirements for their own SkillsUSA Championships program.
- Official attire as indicated for specific contests refers to the following:

For men: Official red blazer or jacket, black trousers with white dress shirt, plain black tie with no pattern or official SkillsUSA black tie from SkillsUSA Supply Service, black socks and black shoes.

For women: Official red blazer or jacket, black skirt or slacks 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: T-shirt-style tops are not approved.

All personal jewelry should contribute to a businesslike appearance. Only official SkillsUSA jewelry is to be worn on a SkillsUSA blazer, windbreaker or sweater. Official jewelry is described as conference, SkillsUSA emblem, officer, statesman's award (one only) and professional development (one only) pins.

5. Shoes: No canvas, vinyl, plastic or leather athletic-type shoes, open-toe 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 leather work shoes are required: "work shoes" are technically defined as low or high-top leather, lace-up shoes with rubber, skid-resistant soles. They can be steel or non steel toed. Work shoes can be purchased very inexpensively at any local department store and in most mail-order catalogs. Western-style (cowboy) boots are not allowed, except Roper-style boots that are all leather, round-toed, flat-soled, with a low heel.
6. Safety glasses where specified must meet OSHA standards. Prescription safety glasses must also have side shields or must be covered with goggles. Also acceptable are safety glasses or goggles in the *SkillsUSA Merchandise Catalog* (published annually by Midwest Trophy Manufacturing Co. Inc.).
7. Contestants with long hair that poses a possible safety or sanitary hazard must wear hair containment devices or hairnets.
8. Contestants may be disqualified for lack of safety clothing or attire and not allowed to participate.
9. The wearing and color of accessory items (such as belts) is optional unless otherwise specified in the contest rules.
10. Only occupational or career patches, competitor patches and Professional Development Program (PDP) patches may be worn on the left shoulder or above the left pocket without penalty. However, they are not required.
11. No identification of the contestant, school or state is allowed on official clothing.
12. See specific clothing and safety requirements under each contest.
13. The penalty for those who do not satisfy dress requirements will be 1 percent to 5 percent of the total possible contest points. Clothing penalties in all skill contests will be assessed by the designated state director in cooperation with the contest chair. SkillsUSA Championships technical committees will assess clothing penalties for all leadership contests.

INSTRUCTIONS TO SKILLSUSA CHAMPIONSHIPS TECHNICAL COMMITTEE CHAIRS

General Responsibilities

1. Attend all meetings called by the SkillsUSA Championships director or officially designate a committee member to serve as your authorized representative at those meetings.
2. Make sure that all committee members are familiar with the *SkillsUSA Championships Technical Standards*.
3. Supervise the selection of the skills to be tested in the national contest, and identify necessary equipment and supplies. Make arrangements for borrowing and/or soliciting donations of all items.
4. Supervise the development of contest projects, drawings and instruction sheets for the contestants.
5. Locate individuals who are knowledgeable in your contest trade or skill area and invite them to serve as judges.

6. Plan the layout of the contest site. Identify needs and/or services such as water, electricity and compressed air.
7. Make arrangements for acquiring appropriate industry awards.
8. Plan and conduct the mandatory contest orientation meeting.
7. Equipment: Take time to explain the operation of equipment with which contestants may not be familiar, including safety features. If possible, allow contestants time to become familiar with the equipment.
8. Special Announcements: Detail any special functions that the committee has planned, explain special transportation or time schedules, announce industry awards, and announce that contestants are not permitted to smoke during the contest. (**Note:** The national organization requests that all SkillsUSA Championships committee and contest personnel refrain from smoking and/or consuming alcoholic beverages in the presence of SkillsUSA student members.)

Contest Orientation Meeting

The contest orientation meeting is mandatory for all SkillsUSA Championships participants. The purpose of this meeting is to review the following items with all contestants.

1. Contestants' Credentials: Verify each contestant's name and number as they appear on the nametag with the master list of contestants.
2. Contest Rules: Check to be certain that all contestants are familiar with the contest rules and have been notified of any relevant information in the annual contest updates.
3. Contest Procedures: Explain the way in which the contest will be run, including schedule, procedure for time in/time out, rating criteria, procedure for breaking ties and method of dealing with problems.
4. Safety Regulations: Review general and specific safety requirements and procedures for the contest.
5. Tools and Materials: Go over the list of tools and materials that are to be supplied by the contestants. Include any additional items mentioned in the updates. If contestants do not have all the required items, be sure they understand that they must obtain them before the contest begins.
6. Work Stations/Order of Performance: If workstations are not identical, make sure contestants draw numbers for assignments. In contests where the order of performance is important, the procedure for determining the order should be explained.
9. Contestants' Questions: Encourage contestants to ask any questions they may have about the SkillsUSA Championships. Try to give satisfactory answers before the close of the contest orientation meeting.
10. Contestant Penalties: There may be special circumstances that prevent a competitor from attending the contest meeting (e.g., illness, accidents or transportation). Please do not disqualify a competitor without first consulting with the SkillsUSA Championships office.

Conducting the SkillsUSA Championships

1. Check all contest area facilities prior to the day of the contest to be certain that everything is in place and in order for a smooth-running competition.
2. Assemble all judges at the contest site prior to the start of the contest for a briefing. Be sure that all questions are answered and that the rating procedures are clear.
3. Check to be certain that all contestants have brought the tools and materials required for the competition. The technical committee may, at its option, furnish any required items that contestants have failed to bring; however, a two-point penalty may be assessed for each missing item.

4. Make sure that all contestants meet clothing requirements for the contest. (See the section on SkillsUSA Championships Clothing Requirements in the individual contest regulations.) The penalty for those who do not satisfy dress requirements will be 1 percent to 5 percent of the total possible contest points. Clothing penalties in all skill contests will be assessed by the designated state director in cooperation with the contest chair. SkillsUSA Championships technical committees will assess clothing penalties for all leadership and Health Occupations contests.
5. Make sure that all contestants receive copies of the project to be completed as well as any necessary drawings, instruction sheets or other materials. Be certain that contestants understand all instructions and have a chance to ask procedural questions. Take great care to see that all contestants have equal time and their questions are answered fairly.
6. Oversee the contest to ensure that safe work practices are followed.
7. Do not permit contestants to enter the contest site at any time unless they are displaying their contestant badges and numbers.
8. Do not permit contestants to smoke during the contest.
9. Conduct a critiquing session with the contestants after the contest to point out general strengths and weaknesses and the quality of work expected by the judges. (Do not discuss individual contestant performance.)
10. Verify all judges' rating sheets and submit them to the SkillsUSA Championships scoring management team.
11. Complete the chair's final report and return it along with required items to SkillsUSA Championships Headquarters following the contest.
12. Keep the results of the contest confidential until the announcement of the winners at the Awards Ceremony.
13. Attend the Awards Ceremony to present medals to the place winners.
14. Organize and supervise the teardown of the contest area, and be certain that equipment, tools and supplies are returned to the proper owners.

Instructions to Contest Judges

1. Judges must be completely familiar with the *SkillsUSA Championships Technical Standards*, particularly the General Regulations, Instructions to Technical Committee Chairs, and the specific rules of the contest they have been asked to judge.
2. Judges should receive copies of the contest project and judges' rating sheet(s), along with complete instructions from the technical committee chair prior to the competition.
3. Members of the SkillsUSA Championships technical committee may not serve as judges unless approved by the SkillsUSA Championships director.
4. Judges must give careful attention to each rule, and each contestant or entry must be judged in exactly the same manner and under the same conditions as every other contestant or entry.
5. Judges will meet prior to the SkillsUSA Championships, at a time and place announced by the SkillsUSA Championships technical committee chair, to confer on:
 - a. Rule meanings and interpretations
 - b. Room arrangements
 - c. Materials and equipment
 - d. Last-minute details
 - e. Rating sheets
6. Judges will evaluate the performance of each contestant according to the criteria listed in each contest.

7. Judges will identify contestants by number only. Judges will not use contestants' names, schools or states unless otherwise specified in individual contest rules.
8. Judges may attend the contest orientation meeting held prior to the opening of the SkillsUSA Championships. However, only members of the technical committee may instruct the contestants and verify attendance.
9. Judges are selected because of their recognized expertise in the trade or skill that they are being asked to judge and are asked to follow the official SkillsUSA rules without inserting personal opinions. Such things as length of hair, length of dress and style of shoe, unless specifically covered in the contest regulations, are not to be considered by the judges except where safety is considered.
10. In no instance are judges or contest chairs authorized to change the contest rules. If an interpretation is required, the chair should contact the SkillsUSA Championships director.
11. Judges are to evaluate all items related to safety. Contestants not meeting safety requirements in clothing and/or devices may be disqualified from competition if, in the judges' opinions, the safety of the contestants or those around them is endangered.
12. Judges should rate contestants on the basis of entry-level job skills.
13. Judges should rate each contestant independently and not compare rating sheets with those of other judges.
14. Judges should rate contestants against a standard of performance rather than automatically awarding first-, second- or third-place medals to the highest-ranking competitors. It is not necessary to award a medal if the standard of performance does not justify such recognition.
15. After the judging is completed, judges should total their own rating sheets and return them, along with any notes and other pertinent information, to the SkillsUSA Championships technical committee chair.
16. The judges and technical committee members will keep all results confidential until the general announcement of winners is made at the Awards Ceremony. Under no circumstances may the judges discuss contest results or contestants' performance with contestants, chapter advisors or any observers.
17. Judges should refer all contest inquiries or problems that arise to the SkillsUSA Championships technical committee chair.

WORLD SKILLS COMPETITION

Introduction

SkillsUSA is a member of the WorldSkills Organization headquartered in Amsterdam, Netherlands. This organization sponsors the biennial WorldSkills Competition (WSC).

TeamUSA's participation in the WSC has provided a vehicle for comparing our career and technical students and methods of training with that of our major free-market competitors. The training technologies displayed at the WSC exemplify the ultimate standard in skilled work force preparation. As such, they offer important lessons for technical instructors and for SkillsUSA's corporate partners, whose productivity depends on employees with up-to-date skills. WSC results are one of the benchmarks by which a country's global economic competitiveness is judged.

WorldSkills was founded in 1950 and currently has members from 48 countries, with efforts constantly being made to expand the membership. In 1973, President Richard M. Nixon recognized SkillsUSA (then known as VICA) as the official organization representing the United States. Only one organization may represent a country in the official delegation and certify that country's international contestants.

SkillsUSA appoints one official delegate and one technical delegate to the governing body of the WorldSkills Organization, called the Member Assembly. A technical expert from the United States is appointed to each contest in which the United States competes and is responsible for working with technical experts from other countries to organize, conduct and judge that contest.

Team Selection Procedures and Criteria

1. SkillsUSA will only compete in those WSC contests for which it has a well-qualified competitor, a well-qualified technical expert, adequate industry support for conducting qualifying trials, advanced training and general operating costs of the TeamUSA contestant prior to the WSC.
2. SkillsUSA's Youth Development Foundation is responsible for obtaining financial support for TeamUSA's general operating costs, financial and in-kind support for qualifying trials and advanced training of TeamUSA members.
3. The age limit set by WorldSkills for contestants is 22 during the calendar year of the WSC. (One exception applies to the two-member Mechatronics team — they may be 25 years old.)
4. Because the WSC is a biennial competition, students from two SkillsUSA Championships are considered. The number of competitors and selection procedure is determined by the technical experts and industry sponsors.
5. High school and college/postsecondary contestants are invited to attend qualifying trials if they received the highest scores in relevant skills tests at previous SkillsUSA Championships and meet the age requirement. If these contestants are unable to attend, the next most qualified contestants are invited. Because invitation to the trials is based on scoring in selected skills to be tested at the WSC, SkillsUSA Championships medal winners are not guaranteed an invitation to qualifying trials.
6. Invitations to compete at qualifying trials will be sent to eligible SkillsUSA Championships competitors who are selected by the national organization, and their instructors and state association directors will be notified.
7. Contestants are judged not only against other competitors in qualifying trials, but also against international performance standards. Therefore, being the top performer at the qualifying trials does not always guarantee selection for TeamUSA.
8. Advanced training may require contestants to temporarily relocate. Contestants will not be expected to pay for their training or to relocate without adequate financial support.
9. In addition to attending qualifying trials and advanced training, TeamUSA members are required to attend a two- to three-day orientation session prior to departure for the WSC.

COMPUTER MAINTENANCE TECHNOLOGY



PURPOSE

To evaluate each contestant's preparation for employment and to recognize outstanding students for excellence and professionalism in the field of computer maintenance technology.

First, refer to General Regulations, Page 9.

CLOTHING REQUIREMENT

For men: Official SkillsUSA white polo shirt with black dress slacks, black socks and black leather shoes.

For women: Official SkillsUSA white polo shirt with black dress slacks or skirt, black socks or black or skin-tone seamless hose and black leather shoes. To purchase the polo shirt, contact Midwest Trophy Manufacturing Co. Inc. by calling 800-324-5996 or you may order online at: www.mtmrecognition.com/skillsusa/

Note: Contestants must wear their official contest clothing to the contest orientation meeting.

ELIGIBILITY

Open to active SkillsUSA members enrolled in programs with computer maintenance technology, electronic product servicing or electronics technology as the occupational objectives.

EQUIPMENT AND MATERIALS

1. Supplied by the technical committee:
All materials, schematics and equipment required for the contest
2. Supplied by the contestant:
 - a. Pencils
 - b. Basic hand tools suited for computer repair and maintenance
 - c. Anti-static wrist strap with alligator clip end. Straps must be in proper working order
 - d. Test equipment (digital multi-meter)
 - e. 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. One standard technical data reference book such as those that include BIOS codes, HDD parameters, etc. Books normally used as a classroom text will not be permitted
- g. Virus detection software with proof of ownership, as described in Item e
- h. One-page, typewritten résumé

SCOPE OF THE CONTEST

The contest is defined by industry standards as determined by the CompTIA A+ Certification Examination. A+ Certification objectives may be found at the following Web site:

www.comptia.org. These are also free by request. Write to: CompTIA, 450 East 22nd St. Suite 230, Lombard, IL 60148-6158.

Knowledge Performance

This portion of the contest will be a computer-based knowledge exam of 75 to 100 questions. Competencies evaluated on the written exam are congruent with those evaluated on the A+ Certification exam. The content areas assessed in the written exam are: components of personal computers, laptops and portable devices, Windows operating systems, printers and scanners, networking, safety and environmental issues and security of computer systems.

Skill Performance

This portion of the contest will be a series of workstations through which each contestant will rotate on a fixed time schedule to troubleshoot both hardware and software problems.

Contest Guidelines

1. The contests will have several hands-on skill scenarios that demonstrate one's ability to perform jobs or skills selected from the list of competencies as determined by the SkillsUSA Championships technical committee. Scenarios may include any or several of the following:
 - a. Diagnose and service personal computer systems

- b. Diagnose and resolve operating system and startup problems
 - c. Locate and identify defective modules within the computer chassis
 - d. Demonstrate ability to use utility software, configure motherboards, drives and other peripherals
 - e. Install, configure and demonstrate proper operations of devices within the computer cabinet
2. The software problems will relate to Windows operating systems and command-line skills.
 3. Contestants will be awarded points based on their ability to solve the provided problems within the allotted time. Partial points can be awarded for solving partial problems.
 4. Competence in the provided tasks is considered when a 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 (regardless of result on certification test), which includes diagnostic procedures, speed, standard industry procedures, accuracy of adjustments and correct component replacements.
 7. Specific penalties will be assessed for the failure to properly utilize anti-static straps at all times when in contact with the computers and for the introduction of computer viruses into the contest computers. Penalties will be assessed at one point per occurrence, and notice of infractions will be communicated to the contestant when they occur.

- 1.1.4 Identify the names purposes and characteristics of processor/CPUs
 - 1.1.5 Identify the names, purposes and characteristics of memory
 - 1.1.6 Identify the names, purposes and characteristics of display devices
 - 1.1.7 Identify the names, purposes and characteristics of input devices
 - 1.1.8 Identify the names, purposes and characteristics of adapter cards
 - 1.1.9 Identify the names, purposes and characteristics of ports and cables
 - 1.1.10 Identify the names, purposes and characteristics of cooling systems
- 1.2 Install, configure, optimize and upgrade personal computer components
 - 1.2.1 Add, remove and configure internal and external storage devices
 - 1.2.2 Install display devices
 - 1.2.3 Add, remove and configure basic input and multimedia devices
 - 1.3 Identify tools, diagnostic procedures and troubleshooting techniques for personal computer components
 - 1.3.1 Recognize the basic aspects of troubleshooting
 - 1.3.2 Identify and apply basic diagnostic procedures and troubleshooting techniques
 - 1.3.3 Recognize and isolate issues with display, power, basic input devices, storage, memory, thermal, POST errors, peripherals, multimedia, specialty input devices, internal and external storage and CPUs
 - 1.3.4 Apply basic troubleshooting techniques to check for problems (e.g., thermal issues, error codes, power and connections including cables and/or pins, compatibility, functionality, software/drivers) with components
 - 1.3.5 Recognize the names, purposes, characteristics and appropriate application of tools, for example: BIOS, self-test, hard drive self-test and software diagnostics test
 - 1.3.6 Identify the steps used to troubleshoot components (e.g., check proper seating,

Standards and Competencies

CMT 1.0 — Perform maintenance on personal computers and computer components

- 1.1 Identify the fundamental principles of using personal computers
 - 1.1.1 Identify the names, purposes and characteristics of storage devices
 - 1.1.2 Identify the names, purposes and characteristics of motherboards
 - 1.1.3 Identify the names, purposes and characteristics of power supplies

- installation, appropriate components, settings and current driver)
- 1.3.7 Recognize names, purposes, characteristics and appropriate application of tools
- 1.4 Perform preventative maintenance on personal computer components
 - 1.4.1 Identify and apply basic aspects of preventative maintenance theory
 - 1.4.2 Identify and apply common preventative maintenance techniques for devices such as input devices and batteries

CMT 2.0 — Perform maintenance procedures on laptops and portable devices

- 2.1 Identify the fundamental principles of using laptops and portable devices
 - 2.1.1 Identify names, purposes and characteristics of laptop-specific devices
 - 2.1.2 Identify and distinguish between mobile and desktop motherboards and processors including throttling, power management and Wi-Fi
 - 2.1.3 Identify appropriate applications for laptop-specific communication connections such as Bluetooth, infrared, cellular WAN and Ethernet
 - 2.1.4 Identify appropriate laptop-specific power and electrical input devices and determine how amperage and voltage can affect performance
 - 2.1.5 Identify the major components of the LCD including inverter, screen and video card
- 2.2 Install, configure, optimize and upgrade laptops and portable devices
 - 2.2.1 Configure power management
 - 2.2.2 Demonstrate safe removal of laptop-specific hardware such as peripherals, hot-swappable devices and non-hot-swappable devices
 - 2.2.3 Remove laptop-specific hardware such as peripherals, hot-swappable and non-hot-swappable devices

- 2.2.4 Describe how video sharing affects memory upgrades
- 2.3 Identify tools, basic diagnostic procedures and troubleshooting techniques for laptops and portable devices
 - 2.3.1 Use procedures and techniques to diagnose power conditions, video, keyboard, pointer and wireless card issues
 - 2.3.2 Use tools, diagnostic procedures and troubleshooting techniques for laptops and portable devices
 - 2.3.3 Use procedures and techniques to diagnose power conditions, video, keyboard, pointer and wireless card issues
- 2.4 Perform preventative maintenance on laptops and portable devices
 - 2.4.1 Identify and apply common preventative maintenance techniques for laptops and portable devices, for example: cooling devices, hardware and video cleaning materials, operating environments including temperature and air quality, storage, transportation and shipping

CMT 3.0 — Manage operating systems within Microsoft Windows 2000, XP Professional, XP Home and Media Center

- 3.1 Identify the fundamentals of using operating systems
 - 3.1.1 Identify differences between operating systems (e.g., Mac, Windows and Linux) and describe operating system revision levels including GUI, system requirements, application and hardware compatibility
 - 3.1.2 Identify names, purposes and characteristics of the primary operating system components including registry, virtual memory and file system
 - 3.1.3 Describe features of operating system interfaces
 - 3.1.4 Identify the names, locations, purposes and characteristics of operating system files
 - 3.1.5 Identify concepts and procedures for creating, viewing

- and managing disks, directories and files in operating systems
- 3.1.6 Use command-line functions and utilities to manage operating systems, including proper syntax and switches
- 3.1.7 Locate and use operating system utilities and available switches
- 3.2 Install, configure, optimize and upgrade operating systems — references to upgrading from Windows 95 and NT may be made
 - 3.2.1 Identify procedures for installing and optimizing operating systems
 - 3.2.2 Identify procedures for upgrading operating systems
 - 3.2.3 Install/add a device including loading, adding device drivers and required software
 - 3.2.4 Identify procedures and utilities used to optimize operating systems for example, virtual memory, hard drives, temporary files, service, startup and applications
- 3.3 Identify tools, diagnostic procedures and troubleshooting techniques for operating systems
 - 3.3.1 Identify basic boot sequences, methods and utilities for recovering operating systems
 - 3.3.2 Identify and apply diagnostic procedures and troubleshooting techniques
 - 3.3.3 Recognize and resolve common operational issues such as blue screen, system lock-up, input/output device, application install, start or load and Windows-specific printing problems (e.g., print spool stalled, incorrect/incompatible driver for print)
 - 3.3.4 Explain common error messages and codes
 - 3.3.5 Identify the names, locations, purposes and characteristics of operating system utilities
 - 3.3.6 Demonstrate the ability to recover operating systems (e.g., boot methods, recovery console, ASR, ERD)
 - 3.3.7 Use diagnostic utilities and tools to resolve operational problems

- 3.4 Perform preventative maintenance on operating systems
 - 3.4.1 Describe common utilities for performing preventative maintenance on operating systems; for example, software and Windows updates (e.g., service packs), scheduled backups/restore and restore points
 - 3.4.2 Demonstrate the ability to perform preventative maintenance on operating systems including software and Windows updates (e.g., service packs), scheduled backups/restore and restore points

CMT 4.0 — Install and configure printers and scanners successfully

- 4.1 Identify the fundamental principles of using printers and scanners
 - 4.1.1 Identify differences between types of printer and scanner technologies
 - 4.1.2 Identify names, purposes and characteristics of printer and scanner components and consumables
 - 4.1.3 Identify the names, purposes and characteristics of interfaces used by printers and scanners including port and cable types
 - 4.1.4 Describe processes used by printers and scanners including laser, ink dispersion, thermal, solid ink and impact printers and scanners
- 4.2 Identify basic concepts of installing, configuring, optimizing and upgrading printers and scanners
 - 4.2.1 Install and configure printers/scanners
 - 4.2.2 Optimize printer performance; for example, printer settings such as tray switching, print spool settings, device calibration, media types and paper orientation, resolution, file format and default settings

- 4.3 Identify tools, basic diagnostic procedures and troubleshooting techniques for printers and scanners
 - 4.3.1 Gather information about printer/scanner problems
 - 4.3.2 Review and analyze collected data
 - 4.3.3 Identify solutions to identified printer/scanner problems
 - 4.3.4 Isolate and resolve an identified printer/scanner problem including defining the cause, applying the fix and verifying functionality
 - 4.3.5 Identify appropriate tools used for troubleshooting and repairing printer/scanner problems

CMT 5.0 — Apply knowledge of networking principles to install, configure, optimize and upgrade networks

- 5.1 Identify the fundamental principles of networks
 - 5.1.1 Describe basic networking concepts
 - 5.1.2 Identify names, purposes and characteristics of the common network cables
 - 5.1.3 Identify names, purposes and characteristics of network connectors
 - 5.1.4 Identify names, purposes and characteristics of technologies for establishing connectivity
 - 5.1.5 Identify names, purposes and characteristics of basic network protocols and terminologies
- 5.2 Install, configure, optimize and upgrade networks
 - 5.2.1 Install and configure network cards (physical address)
 - 5.2.2 Install, identify and obtain wired and wireless connections
 - 5.2.3 Install and configure browsers
 - 5.2.4 Establish network connectivity
 - 5.2.5 Demonstrate the ability to share network resources
- 5.3 Identify tools, diagnostic procedures and troubleshooting techniques for networks
 - 5.3.1 Explain status indicators, for example: speed, connection and activity lights and wireless signal strength

- 5.3.2 Identify names, purposes and characteristics of tools
- 5.3.3 Diagnose and troubleshoot basic network issue

CMT 6.0 — Provide security measures for computer systems

- 6.1 Identify the fundamental principles of security
 - 6.1.1 Identify names, purposes and characteristics of hardware and software security
 - 6.1.2 Identify names, purposes and characteristics of wireless security
 - 6.1.3 Identify names, purposes and characteristics of data and physical security
 - 6.1.4 Describe importance and process of incidence reporting
 - 6.1.5 Recognize and respond appropriately to social engineering situations
 - 6.1.6 Identify the purposes and characteristics of access control
 - 6.1.7 Identify the purposes and characteristics of auditing and event logging
- 6.2 Install, configure, upgrade and optimize security
 - 6.2.1 Install, configure, upgrade and optimize hardware, software and data security
 - 6.2.2 Install and configure software, wireless and data security
- 6.3 Identify tool, diagnostic procedures and troubleshooting techniques for security
 - 6.3.1 Diagnose and troubleshoot hardware, software and data security issues
 - 6.3.2 Diagnose and troubleshoot software and data security issues
- 6.4 Perform preventative maintenance for computer security
 - 6.4.1 Implement software security preventative maintenance techniques such as installing service packs and patches and training users about malicious software prevention technologies
 - 6.4.2 Recognize social engineering situations
 - 6.4.3 Address social engineering situations

CMT 7.0 — Apply awareness of safety and environmental concerns surrounding computer maintenance technology

- 7.1 Describe the aspects and importance of safety and environmental issues
 - 7.1.1 Identify potential safety hazards and take preventative action
 - 7.1.2 Use Material Safety Data Sheets (MSDS) or equivalent documentation and appropriate equipment documentation
 - 7.1.3 Use appropriate repair tools
 - 7.1.4 Describe methods to handle environmental and human (e.g., electrical, chemical, physical) accidents including incident reporting
- 7.2 Identify potential hazards and implement proper safety procedures including ESD precautions and procedures, safe work environment and equipment handling
- 7.3 Identify proper disposal procedures for batteries, display devices and chemical solvents and cans

CMT 8.0 — Display communication and professionalism while working in computer maintenance technology

- 8.1 Use good communication skills, including listening and tact/discretion, when communicating with customers and colleagues
 - 8.1.1 Use clear, concise and direct statements
 - 8.1.2 Allow the customer to complete statements — avoid interrupting
 - 8.1.3 Clarify customer statements — ask pertinent questions
 - 8.1.4 Avoid using jargon, abbreviations and acronyms
 - 8.1.5 Listen to customers
- 8.2 Use job-related professional behavior including notation of privacy, confidentiality and respect for the customer and customer's property

Committee Identified Academic Skills

The technical committee has identified that the following academic skills are embedded in this contest.

Math Skills

- Use scientific notation

Science Skills

- Use knowledge of mechanical, chemical and electrical energy
- Use knowledge of temperature scales, heat and heat transfer
- Use knowledge of work, force, mechanical advantage, efficiency and power
- Use knowledge of principles of electricity and magnetism
- Use knowledge of static electricity, current electricity and circuits
- Use knowledge of signal frequencies and baud rate
- Use knowledge of communication modes (full/half duplex)

Language Arts Skills

- Organize and synthesize information for use in written and oral presentations
- Demonstrate knowledge of appropriate reference materials

Connections to National Standards

State-level academic curriculum specialists identified the following connections to national academic standards.

Math Standards

- Algebra
- Data analysis and probability
- Problem solving
- Reasoning and proof
- Communication
- Connections
- Representation

Source: NCTM Principles and Standards for School Mathematics. To view high school standards, visit: standards.nctm.org/document/chapter7/index.htm. Select "Standards" from menu.

Science Standards

- Understands relationships among organisms and their physical environment
- Understands the sources and properties of energy
- Understands forces and motion
- Understands the nature of scientific inquiry

Source: McREL compendium of national science standards. To view and search the compendium, visit: www.mcrel.org/standards-benchmarks/.

Language Arts Standards

- Students apply a wide range of strategies to comprehend, interpret, evaluate and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, graphics)
- Students adjust their use of spoken, written and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes
- Students use spoken, written and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion and the exchange of information)

Source: IRA/NCTE Standards for the English Language Arts. To view the standards, visit: www.readwritethink.org/standards/index.html.

Computer Maintenance Technology Scorecard

Items Evaluated	Possible Points	Contestant Number						
		1	2	3	4	5	6	7
Windows Wireless	100							
Upgrades	75							
Commandline	75							
Component ID	75							
Windows XP Part 1	150							
Test Equipment	100							
Windows XP Desktop	150							
Windows XP Part 2, Boot	150							
A+ Exams	150							
Résumé Penalty	0 or -50 only							
Clothing Penalty	0 to -50							
Total Possible Points	1,000							

Contest Projects

These contest projects (taken from the 2008 SkillsUSA Championships) are provided to assist you in planning your state contests. The national competition projects/problems are designed by industry representatives and are based on current industry expectations.

Your contests should be conducted as closely as possible to the national contests to ensure your students are ready to compete on the national level. Not only does this result in better national competition, but it also encourages your instructors to teach current industry standards, which results in better quality technical programs in your state.

Please take advantage of these documents, and good luck to all of your competitors!

IMPORTANT NOTE!

The documents were created by SkillsUSA's technical committees and submitted to the national headquarters, where they were reproduced as we received them. Some of the documents still use the word "VICA" in reference to the national organization. In 1999, the Vocational Industrial Clubs of America (VICA) officially became "SkillsUSA-VICA. Since that time, the VICA has been dropped from our official name and we are known simply as "SkillsUSA." We ask that all of our members and partners use our current name in all future documents to avoid confusion.

Thanks for your cooperation.

The names SkillsUSA, SkillsUSA Championships and SkillsUSA Champions; the SkillsUSA: Champions at Work slogan; and the SkillsUSA logo, emblem and slogan art are all registered trademarks of SkillsUSA Inc. All rights are reserved, and permission must be granted by the national headquarters of SkillsUSA prior to any use.

SkillsUSA
2008 Contest Projects

Computer Maintenance Technology

2008 CMT Skill Set Summary

- Ability to move the location of the “My Documents” folder for a user, including restore a relocated “My Documents” folder back to the default location.
- Familiarity with the use of secondary display screens. This includes consideration of what might happen if a PC that had been setup for a secondary video output was suddenly left with just a single/primary display screen.
- Knowledge of all means available for programs to be launched automatically, without user consent, in a Windows computer.
- Familiarity with the use of the archaic TCP/IP “hosts” file.
- Other basic Ethernet and TCP/IP client configurations including selection of correct Ethernet media type, and TCP/IP addressing basics.
- Ability to setup a simple shared read-only network folder. Ability to modify a simple shared folder to allow for read-write-delete access.

Wireless Networking

- The ability to configure a standard, encrypted 802.11 wireless network
- Use standard method to protect a wireless network beyond encryption
- Configure a SOHO router for home use
- Use basic firewall protections for a standard home router

Windows Startup Issues

- The ability to recover a system that is missing key boot files, such as NTLDR, without reformatting or reinstalling.
- An understanding of the types of large system files that are typically located at C:\, and what they do.
- The ability to attack and stop basic malware activity.
- Properly utilize commands such as FIXBOOT.

Other Skills

- The ability to make major system configuration changes while ensuring that customer data remains *absolutely* safe.
- The ability to install new hard drives.
- The ability to halt system files from launching malware in a command-line environment.
- The ability to use common commands (not search tools) to locate files.
- Identify various parts and pieces commonly found in computers and peripherals.
- Use a multimeter to measure continuity, basic DC voltages, and simple current.

Professional Development Test

Each individual contestant in both leadership and skill contests will be given a test taken from Levels 1 through 2 and the SkillsUSA manual of the Professional Development Program.

The following is a sample professional development test. Use this to practice for the actual test.

YOU STILL NEED TO STUDY. The test given at the national conference **WILL NOT** be the same as the test included here.



Sample Leadership and Professional Skills Knowledge Test
- 2006 -

1. If you learn information in a concrete, step-by-step manner, your learning style is most likely
 - a) Structured
 - b) Question and Test
 - c) Auditory
 - d) None of the above

2. If you learn new ideas through feelings, you are most likely a
 - a) Structured learner
 - b) Emotions and Value learner
 - c) Visual Learner
 - d) None of the above

3. To set well defined, achievable goals, you must
 - a) Make your goals specific and reasonable
 - b) Visualize reaching your goals
 - c) List activities that will help you achieve your goals
 - d) All of the above

4. A good meeting is one where:
 - a) There is a specific purpose that is related to the goals of the group
 - b) An agenda is prepared and distributed in advance
 - c) Everyone is encouraged to participate
 - d) All of the above

5. Minutes of a meeting are a record of:
 - a) What was said
 - b) The opinion of the secretary
 - c) Business transacted
 - d) All of the above

6. What is the current SkillsUSA theme?
 - a) Your Passport To Success
 - b) Quality at Work – Skills for the Future
 - c) SkillsUSA: Champions at Work
 - d) We Build the Skills That Make America Great

7. Ways to research your future career or occupation include:
 - a) Internet
 - b) Worker interview
 - c) Asking your instructor
 - d) All of the above
8. What is a method of creating a lot of ideas in a short period of time to expand one's thinking?
 - a) Teaming
 - b) Reading
 - c) Developing
 - d) Brainstorming
9. Equity issues can address the following:
 - a) Gender
 - b) Age
 - c) Weight
 - d) A and B
10. Two categories of customers are:
 - a) Internal and external
 - b) Client and salesperson
 - c) Receiver and provider
 - d) All of the above
11. A good goal statement usually has _____ parts.
 - a) One
 - b) Two
 - c) Three
 - d) Four
12. An auditory learner:
 - a) Learns best by seeing diagrams and directions
 - b) Learns best by using the actual tools
 - c) Learns best by working alone
 - d) Learns best when someone explains to them
13. Which of the following skills are important to effective communications?
 - a) Speaking
 - b) Observation
 - c) Listening
 - d) All of the above
14. Your mentor could be
 - a) Your teacher
 - b) Your parent
 - c) A friend
 - d) All of the above

15. A letter of reference can come from
 - a) Teachers
 - b) Mentors
 - c) Employers
 - d) All of the above
16. What term describes the forms and practices of correct behavior?
 - a) Etiquette
 - b) Competitive Spirit
 - c) Résumé
 - d) Mores
17. It is healthy to balance your time between:
 - a) Leisure activities and work activities
 - b) Your family and day-to-day activities
 - c) All of the above
 - d) None of the above
18. Factors that can cause stress are
 - a) Physical
 - b) Chemical
 - c) Emotional
 - d) All of the above
19. To make a change in your stress level you should:
 - a) Start in small steps
 - b) Enlist support
 - c) Reward yourself when you reach your goal
 - d) All of the above
20. How are state legislators selected?
 - a) Elected from designated areas of a state
 - b) Elected from the state membership as a whole
 - c) Appointed by the governor
 - e) Elected by an electoral college
21. Group projects can result in:
 - a) Promotion of organizational goals
 - b) Improvement of a business or school
 - c) Good will within a community
 - d) All of the above
22. When using parliamentary procedure during a regular meeting, which kind of vote can be taken?
 - a) Voice
 - b) Hand
 - c) Standing
 - d) All of the above

23. _____ setting is an important factor in being successful.
- a) Time
 - b) Goal
 - c) Assignment
 - d) Home
24. Who has the right to speak FIRST on a motion?
- a) President
 - b) Person who made the motion
 - c) Member in favor of the motion
 - d) Member opposed to the motion
25. Which of the following is a good basic rule of a business meeting?
- a) Distribute an agenda
 - b) Allow participants to conduct conversations among themselves
 - c) Handle all questions individually after the meeting has ended
 - d) Avoid visual or printed support material
26. Which of the following is not acceptable napkin use at a dinner meeting?
- a) Cleaning silverware with your napkin
 - b) Wiping your mouth with your napkin
 - c) Spitting food into your napkin
 - d) All of the above
27. When conducting an employment survey in person, which of the following practices are essential in making a good impression?
- a) Presenting your resume and cover letter
 - b) Dressing appropriately for a visit
 - c) Researching the background of the company prior to visiting
 - d) B & C
28. What color of pen should be used when filling out a job application?
- a) Pencil
 - b) Blue or black
 - c) Red
 - d) Green
29. Which of the following techniques can help you in reading professional journals?
- a) Find short amounts of time to read articles in between other activities
 - b) Check to see if an article has a summary and start there
 - c) Start a personal file of articles that you find helpful
 - d) Check out the ads for phone numbers of references
30. What helpful information can be found in a professional journal?
- a) Free products listed by manufacturer
 - b) Manufacturer's contact information
 - c) Calendar of professional meetings listed
 - d) All of the above

31. When assembling your portfolio for employment in your profession, which of the following should **NOT** be included in your portfolio:
- Résumé
 - Letters of recommendation
 - Job application
 - Samples of your best work
32. A good communicator:
- Can guess the correct slant on a story for their audience
 - Works to “sell” ideas by stories and charisma
 - Speaks clearly and to the point
 - Speaks “off-the-cuff” to project an energy of fresh discovery
33. The success of any business depends on:
- Making a large profit
 - Assertive leadership
 - Exceeding the needs and wants of its customers
 - All of the above
34. Often the first step in applying for a specific job is:
- Researching the newspapers
 - Conducting Internet research
 - Filling out a job application
 - Selecting your new outfit
35. Which information should **NOT** be included in a résumé?
- Religious beliefs
 - Full legal name
 - Awards
 - Former employers
36. When completing a job application:
- Read over the entire application before completing it
 - Read each item on the application and skim the confusing questions
 - Only use a computer or typewriter to complete the application
 - Complete the application in pencil
37. When completing the salary section:
- Inflate your desired income to have room to negotiate
 - Put negotiable in the space unless you are certain of the wages paid for the position
 - Put any amount in the space
 - Leave the space blank if you are unsure
38. A mentor:
- Shares his/her experiences and success with you
 - Should be related to you in some way
 - Should have attended the same school as you do
 - Should be at least 40 years of age

39. Portfolios are designed to:
- a) Showcase a person's abilities and accomplishments
 - b) Gather information regarding all a persons work and accomplishments
 - c) Help a person prepare for employment and advanced training
 - d) All of the above
40. A chart that shows the hierarchy of an organization is a:
- a) Flow chart
 - b) Hierarchy chart
 - c) Organizational chart
 - d) Reporting chart
41. Safety is:
- a) The responsibility of the company
 - b) The responsibility of the supervisor
 - c) The responsibility of the company president
 - d) The responsibility of everyone
42. In what year was the SkillsUSA organization founded?
- a) 1997
 - b) 1950
 - c) 1970
 - d) 1965
43. A leader motivates others and makes others want to join an endeavor. To become a good leader you must:
- a) Be a pessimist
 - b) Constantly argue
 - c) Be willing to accept responsibility
 - d) Develop a stubborn attitude
44. Job shadowing means:
- a) Observing a respected person on the job
 - b) Working behind a person in their shadow
 - c) Mimicking a person's actions
 - d) To follow secretly
45. Who decides ultimately whether you succeed or fail?
- a) Your teacher
 - b) Your parents
 - c) Your friends
 - d) You and you alone
46. What does the acronym PDP stand for?
- a) Personal Development Properties
 - b) Passive Deterrent People
 - c) People Doing Program
 - d) Professional Development Program

47. The appearance that a young professional should present is:
- a) Neat
 - b) Well groomed
 - c) Clean
 - d) All of the above
48. Which of the following is NOT a benefit of a community service project?
- a) Satisfaction providing needed help to some individual or cause
 - b) Valuable training in leadership or job related skills
 - c) Opportunity to earn extra money
 - d) Opportunity to do what you enjoy for a good cause
49. Develop a _____ handshake so a person's first impression of you will be a good one.
- a) Bone crushing
 - b) Firm
 - c) Limp
 - d) Dead fish
50. A group of people joined in a cooperative activity is defined as a/an _____.
- a) Team
 - b) Work force
 - c) Educators
 - e) None of the above

GOOD LUCK!

2006 Professional Development Test
- Answer Key -

- | | | | |
|-----|---|-----|---|
| 1. | A | 26. | D |
| 2. | B | 27. | D |
| 3. | D | 28. | B |
| 4. | D | 29. | C |
| 5. | C | 30. | D |
| 6. | C | 31. | C |
| 7. | D | 32. | C |
| 8. | D | 33. | C |
| 9. | D | 34. | C |
| 10. | A | 35. | A |
| 11. | C | 36. | A |
| 12. | D | 37. | B |
| 13. | D | 38. | A |
| 14. | D | 39. | D |
| 15. | D | 40. | C |
| 16. | A | 41. | D |
| 17. | C | 42. | D |
| 18. | D | 43. | C |
| 19. | D | 44. | A |
| 20. | A | 45. | D |
| 21. | D | 46. | D |
| 22. | D | 47. | D |
| 23. | B | 48. | C |
| 24. | B | 49. | B |
| 25. | A | 50. | A |

Professional Résumé

Every competitor (except those involved in Action Skills and Building Maintenance) is required to bring a one-page, type written résumé and submit it to the national technical committee at the contestant orientation meeting during nationals. The résumé may be used by the technical committee for the oral professional assessment segment of the competition. A penalty of 5 percent of the maximum points possible will be assessed for failure to submit a résumé.

The following is an example of a professional, one-page résumé. You can use this as a guideline on how to format your own résumé.

Many programs such as Microsoft Word include a résumé template or a résumé builder to help get you started.

John Doe

Objective This is where you place a clearly-worded occupational objective.

Experience 1990–1994 Arbor Shoe Southridge, SC
National Sales Manager

- Increased sales from \$50 million to \$100 million.
- Doubled sales per representative from \$5 million to \$10 million.
- Suggested new products that increased earnings by 23%.

1985–1990 Ferguson and Bardell Southridge, SC
District Sales Manager

- Increased regional sales from \$25 million to \$350 million.
- Managed 250 sales representatives in 10 Western states.
- Implemented training course for new recruits — speeding profitability.

1980–1984 Duffy Vineyards Southridge, SC
Senior Sales Representative

- Expanded sales team from 50 to 100 representatives.
- Tripled division revenues for each sales associate.
- Expanded sales to include mass market accounts.

1975–1980 LitWare, Inc. Southridge, SC
Sales Representative

- Expanded territorial sales by 400%.
- Received company's highest sales award four years in a row.
- Developed Excellence In Sales training course.

Education 1971–1975 Southridge State University Southridge, SC
▪ B.A., Business Administration and Computer Science.
▪ Graduated Summa Cum Laude.

Skills Keyboarding, Microsoft Office Suite (Word, PowerPoint, Excel), Basic computer repair and maintenance.

Interests/Hobbies Running, gardening, computers.



Insider's Guide to Competition

The following articles are excerpted from SkillsUSA Champions magazine.

They originally appeared in the following issues:

- **Winter 2003**
- **Winter 2004**
- **Winter 2005**
- **Winter 2006**
- **Winter 2007**
- **Winter 2008**

[Download the Insider's Guide here.](#)

Links

[SkillsUSA Home Page](#)

It all starts here. This is the official home page for the national SkillsUSA organization. Here you'll find an exhaustive amount of information covering every aspect of SkillsUSA.

[Join SkillsUSA Online](#)

Submit your membership roster online or register for national conference. You can also find out who received medals in the most recent SkillsUSA Championships, or if you competed, get your score online (contestant number required). NOTE: Scores and medalist listings are for the national competition. For state results, see your [state association director](#).

[Contest Updates](#)

The SkillsUSA Championships Technical Standards is updated annually, but contests may still change slightly between printings. Each year, the national organization releases any changes made to existing SkillsUSA contests. This very important page is where you'll find those changes, a must for staying up to date with contest rules and regulations.

[Contest Information](#)

This page is the gateway to numerous other links related to the SkillsUSA Championships, contest information and other resources. Find capsule descriptions of each contest, rules for new demonstration contests, contest tips and even online forms for registering to attend our national conference.

[National Conference Information](#)

This page provides you with information on all aspects of SkillsUSA's National Leadership and Skills Conference, from exhibits to events to registration information.

[World Skills Competition](#)

Held every other year, the World Skills Competition is a chance for national winners to become international champions. Find out who's on the most current team and keep track of their progress as TeamUSA goes for the gold!

[Educational Materials Catalog](#)

Purchase educational materials online using our secure server. Here you'll find items like the Professional Development Program curriculum, posters, software, and much, much more. You will also be able to purchase related products from other companies, such as Zeecraft (Quiz Bowl equipment) and Dunbar Parliamentary (Chapter Business Procedure materials).

[Midwest Trophy](#)

This is where you can order official SkillsUSA clothing, as well as numerous other SkillsUSA-related items.