TECHNICAL COMPUTER APPLICATIONS

PURPOSE
To evaluate each contestant’s preparation for employment and to recognize outstanding students for excellence and professionalism in the field of technical computer applications.

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 skirt (knee-length) or slacks, black socks or black or skin-tone seamless hose and black leather dress shoes.

These regulations refer to clothing items that are pictured and described at: www.skillsusa.org. If you have questions about clothing or other logo items, call 800-401-1560 or 703-956-3723.

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

ELIGIBILITY
Open to active SkillsUSA members enrolled in programs with computer literacy as part or all of the occupational objective.

EQUIPMENT
1. Supplied by technical committee:
   a. Power strip
   b. Network storage and networking equipment to connect to an Ethernet network
2. Supplied by the contestant:
   a. Computer with the following minimum specifications
      1. Computer/laptop manufactured within last 18 months
      2. NIC card for a wired Ethernet connection
3. Full administrative rights with all user passwords disabled or uninstalled
4. Software suite accessibility, including a minimum of word processing, spreadsheet, database presentation software
   b. All competitors must create a one-page résumé and submit a hard copy to the technical committee chair at orientation. Failure to do so will result in a 10-point penalty.
3. Any changes to the hardware or software requirements will be announced annually in the SkillsUSA Championships update at: www.skillsusa.org/compete/updates.shtml.
4. No cellphones or PDAs will be allowed during the contest.

Note: Your contest may also require a hard copy of your résumé as part of the actual contest. Check the Contest Guidelines and/or the updates page on the SkillsUSA website: www.skillsusa.org/compete/updates.shtml

SCOPE OF THE CONTEST
This contest is defined by industry standards as set by the current industry technical standards. The contest assesses the ability of a candidate to perform jobs and skills selected from the list of competencies as determined by the SkillsUSA Championships technical committee.

Knowledge Performance
A written exam will be given that covers the installation and operation of the software, hardware and cabling plus general computer support knowledge. Topics also include information as related to the Internet, networking and data sharing.

Skill Performance
A series of demonstrations will be performed during the skills performance portion of this contest. The competencies outlined by the contest technical committee will be used as the foundation for this assessment. Contestants should be familiar with using a Windows-based, open source and/or Macintosh operating system. All work must be done independently.
Standards and Competencies

TECH 1.0 — Administer topics relating to the Internet standards and guidelines as set forth by the technical committee
1.1 Describe email functions
1.2 Define FTP
1.3 Explain networking processes
1.4 Display knowledge of server installation
1.5 Describe wireless and Bluetooth technology

TECH 2.0 — Install and configure an operating system per standards and guidelines as set forth by the technical committee
2.1 Modify the configuration setting for an operating system
2.2 Create users and policies for users
2.3 Manipulate application software as needed

TECH 3.0 — Demonstrate the use of Application Software per standards and guidelines as set forth by the technical committee
3.1 Use features in email
   3.1.1 Originate and respond to email and instant messages
   3.1.2 Attach files to items
   3.1.3 Create and modify a personal signature for messages
   3.1.4 Modify email message settings and delivery options
   3.1.5 Create and edit contacts
   3.1.6 Accept, decline and delegate tasks
   3.1.7 Create and modify appointments, meetings and events
   3.1.8 Update, cancel and respond to meeting requests
   3.1.9 Customize calendar settings
   3.1.10 Create, modify and assign tasks
   3.1.11 Create and modify distribution lists
   3.1.12 Link contacts to other items
   3.1.13 Create and modify notes
   3.1.14 Organize items using folders
   3.1.15 Search for items
   3.1.16 Save items in different file formats
   3.1.17 Assign items to categories
   3.1.18 Preview and print items
3.2 Use features in word processing
   3.2.1 Format text and paragraphs
3.2.2 Apply and format columns
3.2.3 Insert and modify content in header and footers
3.2.4 Modify document layout and page setup
3.2.5 Create new documents using a template
3.2.6 Review and modify document properties
3.2.7 Organize documents using file folders
3.2.8 Save documents in appropriate formats for different users
3.2.9 Print documents, envelopes and labels
3.2.10 Preview documents and Web pages
3.2.11 Insert and edit text, symbols and special characters
3.2.12 Insert frequently used and predefined text
3.2.13 Navigate to specific content
3.2.14 Insert, position and size graphics
3.2.15 Create and modify diagrams and charts
3.2.16 Locate, select and insert supporting information
3.2.17 Change and organize document views and windows
3.2.18 Insert and modify tables
3.2.19 Create bulleted lists, numbered lists and outlines
3.2.20 Insert and modify hyperlinks
3.2.21 Circulate documents for review
3.2.22 Compare and merge documents
3.2.23 Insert, view and edit comments
3.2.24 Track, accept and reject proposed changes
3.3 Use features of spreadsheets
   3.3.1 Enter and edit cell content
   3.3.2 Locate specific cell content
   3.3.3 Locate, select and insert supporting information
   3.3.4 Insert, position and size graphics
   3.3.5 Filter lists using the AutoFilter feature
   3.3.6 Sort lists
   3.3.7 Insert and modify formulas
   3.3.8 Use statistical, date and time, financial and logical functions
   3.3.9 Create, modify and position diagrams and charts based on worksheet data
   3.3.10 Apply and modify cell formats
3.3.11 Apply and modify cell styles
3.3.12 Modify row and column formats
3.3.13 Format worksheets
3.3.14 Insert, view and edit comments
3.3.15 Create new workbooks from templates
3.3.16 Insert, delete and move cells
3.3.17 Create and modify hyperlinks
3.3.18 Organize worksheets
3.3.19 Preview data in other views
3.3.20 Customize window layout
3.3.21 Setup pages for printing
3.3.22 Print data
3.3.23 Organize workbooks using file folders
3.3.24 Save data in appropriate formats for different uses

3.4 Use features in presentation software
3.4.1 Create new presentations from templates
3.4.2 Insert and edit text-based content
3.4.3 Insert tables, charts and diagrams
3.4.4 Insert pictures, shapes and graphics
3.4.5 Insert objects
3.4.6 Format text-based content
3.4.7 Format pictures, shapes and graphics
3.4.8 Format slides
3.4.9 Apply animation schemes
3.4.10 Apply slide transitions
3.4.11 Customize slide templates
3.4.12 Work with masters
3.4.13 Track, accept and reject changes in a presentation
3.4.14 Add, edit and delete comments in a presentation
3.4.15 Compare and merge presentations
3.4.16 Organize a presentation
3.4.17 Set up slide shows for delivery
3.4.18 Rehearse timing
3.4.19 Deliver presentations
3.4.20 Prepare presentations for remote delivery
3.4.21 Save and publish presentations
3.4.22 Print slides, outlines, handouts and speaker notes
3.4.23 Export a presentation to another Microsoft Office program

3.5 Web page development tools
3.6 Web browser

**TECH 4.0 — Complete a hands-on demonstration of the Internet per standards and guidelines as set forth by the technical committee**

4.1 Show proper use of email
4.2 Exhibit knowledge of FTP
4.3 Employ knowledge of networking
4.4 Share data across the Internet

**Committee Identified Academic Skills**
The technical committee has identified that the following academic skills are embedded in this contest.

**Math Skills**
- Use fractions to solve practical problems
- Use proportions and ratios to solve practical problems
- Solve practical problems involving percents
- Solve single variable algebraic expressions
- Solve multiple variable algebraic expressions
- Apply transformations (rotate or turn, reflect or flip, translate or slide and dilate or scale) to geometric figures
- Make predictions using knowledge of probability
- Make comparisons, predictions and inferences using graphs and charts
- Organize and describe data using matrices
- Solve problems using proportions, formulas and functions
- Use laws of exponents to perform operations

**Science Skills**
None Identified

**Language Arts Skills**
- Provide information in conversations and in group discussions
- Provide information in oral presentations
- Demonstrate use of such verbal communication skills as word choice, pitch, feeling, tone and voice
- Demonstrate use of such nonverbal communication skills as eye contact, posture and gestures using interviewing techniques to gain information
- Demonstrate comprehension of a variety of informational texts
- Use text structures to aid comprehension
- Organize and synthesize information for use in written and oral presentations
- Demonstrate knowledge of appropriate reference materials
- Use print, electronic databases and online resources to access information in books and articles

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
- Communication
- Connections
- Representation


Science Standards
- Understands the sources and properties of energy
- Understands the nature of scientific inquiry
- Understands the scientific enterprise

Source: NCES compendium of national science standards. To view and search the compendium, visit: www.ncrel.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 employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes
- Students apply knowledge of language structure, language conventions (e.g., spelling and punctuation), media techniques, figurative language and genre to create, critique and discuss print and non-print texts
- Students use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge.
- 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.ncte.org/standards.
Contest Updates

SkillsUSA Championships Technical Standards 2015-2016

To assure you and your students are prepared for the 2015 competitions, be sure you have the latest edition. You may order online by going to www.skillsusa.org/store or you may call toll-free and place your order. The telephone number is 1-800-321-8422.

General Notes

Contest Scorecards

The official SkillsUSA Championships scorecards are no longer part of the book and electronic copies of the Technical Standards manual.

They are available [here] as a download.

Résumé Requirement

All competitors must create a one-page hard copy résumé and submit this to the technical committee chair at the contest orientation. Failure to do so will result in a 10 point penalty. Competitors can bring a résumé to the contest on the day of competition however, the penalty will remain in effect.
Technical Computer Applications

Contestants will be expected to demonstrate installation, configuration and use of Windows, Mac OS X 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, etc. The use of Open source software such as OpenOffice will be preferable. Microsoft Office and other integrated office suites could be used. The utilization of instant messaging, collaboration and social networking software will be required during the contest. Contestants will be expected to perform in teams while demonstrating individual technical skills. The contest will include an oral presentation demonstrating the student’s ability to communicate with others, a hands-on skills demonstration, and a one hour time allotted written examination.

Technical Computer Applications 2/12/15
The list below is the minimum requirements needed:

- Laptop or Desktop manufactured within the last 2 years
- Intel or AMD x86-based Processor (no ARM)
- Wired NIC card or adaptor (wireless will be provided to best ability, but wired is the only officially supported connection)
- Windows Vista or newer (not Windows RT), Mac OS X 10.7+, Linux running Kernel 3.2+
- 60 GB free disk space
- 2 GB of RAM (4 GB preferred)

Technical Computer Applications Scorecard

<table>
<thead>
<tr>
<th>Items Evaluated</th>
<th>Possible Points</th>
<th>Contestant Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Test</td>
<td>100</td>
<td>1</td>
</tr>
<tr>
<td>Install &amp; Configure Application Software</td>
<td>100</td>
<td>2</td>
</tr>
<tr>
<td>Use Features in Email</td>
<td>125</td>
<td>3</td>
</tr>
<tr>
<td>Use Features in Word Processing</td>
<td>125</td>
<td>4</td>
</tr>
<tr>
<td>Use Features in Spreadsheet</td>
<td>125</td>
<td></td>
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<tr>
<td>Use Features in Presentation Software</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Install &amp; Configure Operating System</td>
<td>100</td>
<td></td>
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<tr>
<td>Collaborative Solutions</td>
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<tr>
<td>Résumé Penalty</td>
<td>0 or -10 only</td>
<td></td>
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<tr>
<td>Clothing Penalty</td>
<td>0 to -50</td>
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<tr>
<td>Total Possible Points</td>
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<td></td>
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