CONTEST DESCRIPTION

Web Technologies

SECONDARY

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1 THE SKILLS FOR SUCCESS FOR CAREERS IN THE SKILLED TRADES AND TECHNOLOGY

In response to the evolving labour market and changing skill needs, the Government of Canada has launched the new Skills for Success *(former Essential Skills)* model defining nine key skills needed by Canadians to participate in work, in education and training, and in modern society more broadly. SCC is currently working with Employment and Social Development Canada (ESDC) to bring awareness of the importance of these skills that are absolutely crucial for success in Trade and Technology careers. Part of this ongoing initiative requires the integration and identification of the Skills for Success in contest descriptions, projects, and project documents. The next phase and very important aspect of our Skills for Success (SfS) initiative is to provide a *Skills Report Card* to each competitor at the Skills Canada National Competition. The purpose of the report card is to inform the competitor about their current level of nine identified Skills for Success based on their competition scores. With this knowledge, the competitor will be made aware which skill may require improvement. Full implementation is expected in the next Skills Canada National Competition.

The following 9 skills have been identified and validated as key skills for success for the workplace in the legend below:
[1]Numeracy, [2]Communication, [3]Collaboration, [4]Adaptability, [5]Reading, [6]Writing, [7]Problem Solving, [8]Creativity and Innovation, [9]Digital

These Skills for Success have been identified in section 2.3 and/or 3.2 of your Contest Description and if applicable, in your Project and supporting documents.

2 CONTEST INTRODUCTION

2.1 Description of the associated work role(s) or occupation(s)

https://www.skillscompetencescanada.com/en/skill_area/web-technologies

The field of Web Technologies is always changing and evolving. It can range from the maintenance of simple web sites using HTML and CSS to the development of Application Programming Interfaces to allow different systems to communicate and everything in between using a variety of languages and frameworks.

A web technologist's skill sets can include graphic design, software development, cyber security, database design, data transport, user interface principles, responsive design and accessibility considerations. The web hits on all these areas.

Due to unforeseeable COVID-19 regulations/uncertainties, competition documents are subject to change.

Working on computers with specialized software, web technologists build today's sophisticated web applications. This could be an e-commerce store, a fitness tracking website or anything your imagination can come up with.

Security and accessibility are key aspects of web technology. All web applications are vulnerable to cyber-attacks and must be protected from these attacks wherever possible. Accessibility of information is also important as people accessing your web application will be using a variety of devices including mobile devices, screen readers, and other equipment intended to help people with disabilities.

Web Technologies also requires you to keep learning. The web has become a key place for business, education, and social connectivity which has resulted in an explosion of technology to provide these services. New frameworks and approaches are being released all the time and anyone working in this field needs to keep up with these developments to assess them and integrate them where required.

2.2 Purpose of the Challenge

To provide competitors with the opportunity to demonstrate, through practical application, their skills in client- and server-side web technologies.

2.3 Duration of contest

The competition will be two days long with six hours of competition per day. The competition will be broken into a number of modules to be completed and submitted every three hours.

2.4 Skills and Knowledge to be tested.

- Graphics for the web[9]
- Web design principles[9]
- HTML[9]
- CSS[9]
- Programming using JavaScript, jQuery[9]
- Programming in a Web Server LAMP environment using PHP and MariaDB [7,9]

3   CONTEST DESCRIPTION

3.1 List of documents produced and timeline for when competitors have access to the documents on the Skills/Compétences Canada website

DOCUMENT	DATE OF DISTRIBUTION
Pre-release Project	December 2022
Test Project	First day of competition

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3.2 Tasks that may be performed during the contest

- Use standard (X)HTML and CSS to create accessible and usable Web pages. [7, 9]
- Create responsive Web page designs that are viewable in modern Web browsers (Mozilla Firefox, Google Chrome, Microsoft Edge, Apple Safari) and on numerous devices (desktop computer, tablet computer, smartphone). [9]
- Create, manipulate, and optimize raster and vector graphics. [8,9]
- Write JavaScript code and utilize libraries in order to enhance the overall user experience of Web solutions [7,9]
- Write server-side code using PHP given a set of functional requirements within the LAMP environment. [6,7]
- Use MariaDB (a relational databases) when writing programs that operate on persistent data. [7,9]
- Refactor and debug client- and server-side code. [7]

Skills for Success – [5]Reading, [6]Writing, [7]Problem Solving, [8]Creativity & Innovation [9]Digital

4   EQUIPMENT, MATERIAL, CLOTHING

4.1   Equipment and material provided by <u>Skills/Compétences Canada</u>

- Worktable and ergonomic chair
- External monitor with HDMI connection
- Access to LAMP web server environment for testing and submitting project files and databases.

COMPETITORS WILL BE REQUIRED TO USE THE MATERIAL AND EQUIPMENT PROVIDED BY SCC. ALL OTHER MATERIAL AND EQUIPMENT WILL BE REMOVED FROM THE SKILL AREA.

4.2   Equipment and material provided by <u>the competitor</u>

- Headphones, MP3 player or Phone (phone must be in airplane mode with wifi turned off)
- Laptop with power adapter – competitor needs to have administrative privileges on laptop
- HDMI adapter if needed
- IDE or editor of choice to work on HTML, CSS, PHP, JavaScript files.
- File transfer program that supports secureFTP (e.g., Filezilla)
- Image editing program (e.g., Gimp, Photoshop)
- May bring: Mouse and external keyboard (to work with laptop)

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- If competitors are bringing a computer or laptop from their school (instead of their personal computer), please ensure that the computer is unlocked so documents and possibly software can be saved/installed to the hard drive and technology support can be provided onsite. This may require access to CMOS settings.

4.3 Required clothing provided by the competitor

- Competitors must be dressed in a business casual attire

5 HEALTH AND SAFETY

5.1 Safety program

SCC has implemented a comprehensive safety program as health and safety is an integral part of our competitions. Our safety program includes guidelines and procedures to make the work environment in each skill area safer.

5.1.1 Safety manual

As part of our program a safety manual has been created to monitor and document health and safety within each skill area. It includes a definite plan of action designed to prevent accidents. The safety manual will be provided for every skill and these instructions must be followed and respected by all participants and officials at the SCNC.

5.1.2 Safety workshop

During orientation, Competitors will participate in a Safety workshop and they will be expected to work and maintain a safe working area during the competition. Any Competitor breaking any health, safety, and environmental rules, may be required to undertake a second safety workshop, this will not affect the Competitor's competition time.

5.2 COVID-19 Protocol

The COVID-19 guidelines will be shared as soon as they are available.
The COVID-19 guidelines will be subject to change based on the COVID-19 guidelines in place at the time of the competition.

5.3 List of required personal protective equipment (PPE) provided by Skills/Compétences Canada

- No PPE required

5.4 List of required personal protective equipment (PPE) provided by the competitor

- No PPE required.

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Note: Competitors who do not have the required protective equipment will not be allowed to participate in the competition.

6 ASSESSMENT

6.1 Point breakdown

Note: This list is subject to change.

TASKS	/100
Design	40
Development	60

7 CONTEST SPECIFIC RULES

Contest specific rules cannot contradict or take priority over the Competition Rules. They do provide specific details and clarity in areas that may vary from contest to contest. Any additional contest rules will be reviewed during the competitor orientation.

TOPIC/TASK	CONTEST SPECIFIC RULE
Module Completion	Modules will be distributed at the beginning of the competition day. Certain modules as per the competition must be submitted at the end of each 3-hour block.
Server access and use	During orientation, you must complete a web server access checklist. This must be completed prior to the start of the competition. The provided server is used for all judgement so your work must be uploaded to the server before the end of each module.

8 ADDITIONAL INFORMATION

8.1 Interpreter

If a competitor requires the help of an interpreter once onsite during the competition, the Skills/Compétences Canada Provincial/Territorial offices must advise Skills/Compétences Canada National Secretariat a minimum of 1 month prior to the competition or this service may not be guaranteed.

8.2 Ties

- Tiebreaker #1: The competitor with the highest score in the Measurement criteria will be declared the winner.
- Tiebreaker #2: The competitor with the highest score in the most complex task of test project will be declared the winner.

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- Tiebreaker #3: The competitor with the highest score in the second most complex task of test project will be declared the winner.

8.3 Test Project change at the Competition

Where the Test Project has been circulated to Competitors in advance, NTC shall change a maximum of 30% of the work content. Please refer to the Competition Rules.

8.4 Competition rules

Refer to the competition rules of the Skills Canada National Competition which can be found on our website.

9 NATIONAL TECHNICAL COMMITTEE MEMBERS

MEMBER ORGANIZATION	NAME
Newfoundland and Labrador	David Cantwell – Chair
Ontario	TBC
Manitoba	Sean Taylor – Co-Chair
Saskatchewan	Jeff Boulton
Alberta	Matt Waggoner
British Columbia	Steve Lang

Contact the Skills/Compétences Canada national secretariat for any questions or concerns: Nathalie Maisonneuve (nathaliem@skillscanada.com).