22nd ANNUAL SKILLS MANITOBA COMPETITION
CONTEST DESCRIPTION

Competition Year	2019
Trade Number	17
Trade Name	Web Design & Development
Level	Secondary & Post-secondary
Max Number of Competitors	8 per level

Note: Provincial Technical Committee reserves the right to make changes based on the competition scope released in a timely manner by the National Technical Committee. Please check back on this scope document prior to the Provincial Skills Competition.

1. **CONTEST LOCATION**
   Red River College – The Roblin Centre
   160 Princess Street
   Winnipeg, Manitoba
   R3B 1K9
   Computer Lab/Room TBD

2. **CONTEST START TIME AND DURATION**
   Contest Date: **Thursday, April 11, 2019**
   Orientation: **7:50 AM**
   Contest: **8:00 AM – 11:00 AM** and **11:30 PM – 2:00 PM**
   Total Hours: **5.5**

3. **PURPOSE OF CHALLENGE**
   The goal is to provide an opportunity for students to demonstrate their knowledge and skills in user experience design, client- and server-side web design and development.

4. **SKILLS AND KNOWLEDGE TO BE TESTED**

   This modular competition will test the competitor's knowledge and skills dealing with:

   - Graphics for the web

   - Web design principles

     o Colours, typography, web structure, layout structure, and user experience design.

- HTML5
- CSS 1 - 3
- PHP5
- JavaScript, jQuery with optional elements in MySQL and AJAX.

The project information will be provided at the competition.

Note - PHP to MySQL database connectivity knowledge is optional for secondary school competitors but NOT optional at Skills Canada Competition.

Competitors should have the knowledge of how to develop web page templates using graphic design tools.

Note - *Competitors will not be required to build the database. Skills Canada National Competition requires competitors to construct the database.*

5. CONTEST DESCRIPTION

Tasks that may be performed during the competition:

- Use standard HTML and CSS to create accessible and usable web pages.
- Create responsive web page designs that are viewable in modern web browsers (Firefox, Chrome, Edge, Safari) and on numerous devices (desktop, tablet and smartphone).
- Create, manipulate, and optimize raster and vector graphics.
- Write JavaScript code and utilize libraries in order to enhance the overall user experience of web solutions.
- Write JavaScript and PHP programs given a set of functional requirements.
- Create and user relational databases with MySQL, and write programs that operate on persistent data.
- Apply known object-oriented design patterns as part of a complete web solution.
- Refactor and debug client- and server-side code.

POINT BREAKDOWN (100 POINTS)

6. Post-Secondary

This section includes a general description of the point breakdown. A more specific breakdown will follow with the problem document. Please note that the criteria in which competitors are judged on is at a higher level in the post-secondary competition.

User Experience Design: 25
- User Interface Design: layout, typography, visual hierarchy, user interaction, and other elements of graphic design.

- Optimized graphics
- Cross-browser and device compatibility

Technical Elements: 25
- Includes proper syntax in HTML, CSS, PHP, and JavaScript code statements
- Use of comments and alt tags
- Interactivity across multiple size screens (responsive)
- Function and ease of use
- Cross browser support

Database Connectivity: 20
- Use of proper SQL syntax in PHP scripts
- Read and write functionality to the database
- Proper error handling and reporting
- Relevant data and correct use of data-types

Client Side Scripting: 20
- Use of JavaScript, AJAX and/or jQuery plug-in(s) in site (form validation, menus, font-size option, etc.)

Solution quality and integration: 10
- Quality of final website, following web standards and user experience design fundamentals.

7. Secondary

This section includes a general description of the point breakdown. A more specific breakdown will follow with the problem document. Please note that the criteria in which competitors are judged on is at a higher level in the post-secondary competition.

User Experience Design: 35
- Includes layout, typography, visual hierarchy, and other elements of graphic and interface design
- Optimized graphics
- Cross-browser compatibility

Technical Elements: 35
- Includes proper syntax in XHTML, CSS, PHP, and JavaScript code statements
- Use of comments and alt tags
- Construction of XHTML form and table
- Function and ease of use
- Cross browser support

Optional Element: 20 (Choose one)
- Use of JavaScript and/or jQuery plug-in(s) in site (form validation, menus, font-size option, etc.)

- Database Connectivity:
  - Use of proper syntax in PHP scripts

- o Read and write functionality to the database
- o Proper error handling and reporting
- o Relevant data and correct use of data-types

Solution quality and integration: 10
- Quality of final website, following web standards and user experience design fundamentals.

8. **EQUIPMENT, TOOLS, MATERIALS TO BE PROVIDED BY COMMITTEE**
- Paper for writing
- Windows based computers – specs not available at this time
- Web server running PHP and MySQL versions not available at this time
- jQuery library – Along with access to the code for various plug-ins
- Basic Frameworks
- Current and host site supported version of Adobe web site design and production software
- HTML Editors (may be included):
    - o Notepad ++
    - o Sublime Text
- Web Browsers – Internet Explorer, Firefox, Chrome
- Versions and software subject to change. The specific lab setup cannot be presented at this time. Details will be updated as soon as information is available.
- Competitors with specific software or hardware requests should make them immediately for them to be taken into consideration.

9. **EQUIPMENT, TOOLS, MATERIALS TO BE SUPPLIED BY COMPETITOR**
- Pencils or pen for writing
- Portable audio players allowed, subject to inspection
- Headphones
- Cell Phone connections are strictly prohibited. Cell phones with music player functions will be permitted provided the phones are set to "airplane-mode"

10. **WORKSITE SAFETY RULES / REQUIREMENTS**
- No food or beverages at workstations exception for water in closed containers
- No outside resources, books, web pages, data storage devices allowed
- Portable audio players allowed, subject to inspection. No devices of any kind may be connected to workstations
- No headwear, no logos or trademarks on clothing. See provincial competitor guidelines

11. **NATIONAL COMPETITION ELIGIBILITY**
- A mark of **70% or higher** must be scored by the gold medalist in each contest in order for them to attend the National Skills Competition

12. **ADDITIONAL INFORMATION**
- Some useful links are: http://ca.php.net/tut.php

http://www.w3schools.com/php/default.asp
http://www.w3schools.com/sql/default.asp

- No tie scores are allowed (judges will be responsible for tie breaker procedure)

THE IMPORTANCE OF ESSENTIAL SKILLS FOR CAREERS IN THE SKILLED TRADES

Essential skills are used in nearly every job and at different levels of complexity. They provide the foundation for learning all other skills and enable people to evolve with their jobs and adapt to workplace change. Good Essential Skills means you will understand and remember concepts introduced in technical training. The level of Essential Skills required for most trades is as high as or higher than it is for many office jobs.

The following 9 skills have been identified and validated as key essential skills for the workplace: Numeracy, Oral Communication, Working with Others, Continuous Learning, Reading Text, Writing, Thinking, Document Use, and Digital.

Top Essential Skills for Website Development: Oral Communication, Thinking: Decision Making, Critical, Problem Solving, and Digital

13. TECHNICAL COMMITTEE

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Last Update: January 25, 2019