2010 Provincial Skills Canada Competition

Scope Document

Edmonton Expo Centre, Edmonton
May 12 & 13, 2010

EVENT: Architectural Technology and Design	**LEVEL:** Secondary
START TIME **May 12th:** 8:00 am **May 13th:** 8:00 am	**LOCATION:** Hall B, Edmonton Expo Centre, Edmonton
THEORY EXAM: Yes	**DURATION:** 10 hrs (two days)

WORLDSKILLS TRADE #: 52

GENERAL DESCRIPTION

Purpose of the Challenge:
Assess contestant's skill in performing design and drawing tasks using computer aided drafting and design software.

Skills and Knowledge to be Tested:
Computer aided design and drawing both manually and using a computer. The competitors will be challenged in:

- Interpreting instructions
- Reading and developing plans
- Reading and interpreting architectural and construction specifications for either residential or commercial buildings
- Residential CMHC handbook
- Wood frame construction
- Small-scale buildings; residential in nature

The key themes covered will be:
Architecture – envelope design, space planning, material selection, and code
Engineering – structural analysis, spans, building mechanical and electrical systems integration
Construction – regulatory building codes, assembly, longevity, sustainability

Theory Exam: This exam will be based on the Canadian Wood-Frame House Construction Handbook as prepared by CMHC.

Skills and Knowledge:

- CADD experience
- Detail and sketching skill
- Code interpretation – National building code of Canada
- Standard application – CMHC Canadian wood-frame house construction
- Planning concepts, space relationships
- Basic building m & e systems and their integration into the building
- Presentation skills – sheet layout, use of scale and symbols, structural selection tables use

EQUIPMENT & MATERIALS

Equipment and Materials Competitors Must Supply:

- Sketch paper, graph paper, pens & pencils
- Calculator (e.g. TI81)
- Books for reference purposes (e.g. text books)
- CMHC – Canadian Wood-Frame House Construction Handbook

Equipment and Materials supplied by Committee:

The organizing committee will provide the equipment and the supplies required for the provincial competition. The committee intends to provide Windows compatible hardware loaded with Revit, Autocad, and Architectural Desktop. Should other software packages or other platforms be required, the competitors and their advisors are responsible to install and provide system support. Alternate software requires prior committee approval upon registration. No software reference manuals, textbooks, external hardware, or electronic data (e.g. CD, diskette, or photocopied material) will be permitted. However, building code & wood frame books are permitted.

Customized AutoCAD menus, LISP routines, and script files will be permitted, provided that they are submitted to the committee via e-mail a minimum of one week prior to the competition and deemed acceptable. Only storage devices provided to the contestants from committee members will be authorized for use during the competition. Any other alternate software requires prior committee approval.

RELATED CAREER AND TECHNOLOGY STUDIES MODULES:

DES1050: CAD Fundamentals (Computer-aided Design)
DES2030: CAD Applications (Computer-aided Design)

Descriptions of modules are located at the following website: http://www.education.gov.ab.ca/cts/design/

JUDGING CRITERIA

Presentation:
Design – meet general CMHC construction standards, and problem solving CAD Skills

Work Organization:
Layout of solutions
Comprehensiveness
Outline – concept to solution presentation
Resource referencing

Solution:
Originality
Economics
Simplicity
"Best fit to problem"
Longevity
Sustainability/Energy Efficiency

Accuracy of Drawing:
Technical working drawing content
Dimension line use
Use of line types
Annotation
Hatching
Proper use of standard symbols

Compliance to Standard:
Structural analysis
Electrical and mechanical integration

Other:
Completeness

The criterion is not all weighted equally. The evaluation will be based on the combined effort on both sketches and computer work.

Project Weighting:
Exam: 10%
Design Project: 55%
CAD Skills Project: 35%

Tie Breaking Procedure: If two competitors appear to be performing equally the judges will turn to the competitor who scored highest on the theory exam. The competitor scoring highest on the theory exam will be the winner.

ADDITIONAL INFORMATION

The use of alternate software requires prior committee approval. Please contact Skills Canada Alberta or the Provincial Technical Committee in advance for approval.

COMMITTEE MEMBERS

Ted Sharpe	Ross Sheppard High School
Bill Adamoski	Archbishop O'Leary Catholic High School
Lloyd Bloomfield	Harry Ainlay High School
Sorrell Whitrow	Post-Secondary Student