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Regional Scope Document-

ARCHITECTURAL CAD (Secondary) 2011

Purpose of the Challenge:

To evaluate students knowledge and skill in interpreting an Architectural drawing, as well as their understanding of the basic Architectural design fundamentals using CAD.

Skills & Knowledge to be Tested:

CAD Techniques:

- Use of fundamental CAD techniques and commands to produce a drawing to International Drafting Standards.
- Ability to produce a CAD drawing to a defined scale using Templates and Borders.
- Knowledge of CAD Standards for setting limits, line types and scales, layers dimension variables and units.

Architectural Principles:

- Demonstrate the understanding of appropriate Architectural symbols and terminology.
- Use of appropriate materials and sizes for typical Western Frame Construction.
- Demonstrate the ability to produce freehand sketches for design and planning purposes.
- Demonstrate the ability to create a feasible solution to a design problem showing understanding of typical Design and Ergonomic standards in Canada.
- Application of basic math skills as related to drafting.

Specific Requirements:

All software packages will be original versions. No add-on applications will be allowed.

- Contestants will be given drawing specifications for title block AND sheet size. Contestants will be required to sketch a solution to a design and ergonomic problem.
- Contestants will be required to complete, in whole or in part, a Construction Plan for a given Design Drawing.

Equipment / Tools / Materials

Hardware:

- Pentium type computers a three button roller mouse.

Software:

All software packages will be original versions. No add-on applications will be allowed.

No software shall be used that automates the design process. Such packages are those that generate elevations from floor plans.

Software and hardware are regional specific and based on what is available at our host location, so some variation may occur, students may be requested to bring software or a laptop containing the software at the discretion of the host committee.

Should other software packages or platforms be required, the contestant and their mentors are responsible to provide systems support in order to complete the project as specified. The alternate software will require prior approval of the local committee to allow adequate preparation time.

No software reference manuals, textbooks or electronic data (eg. CD or diskette) will be permitted for the duration of the competition. However, the National Building Code and the CMHC Wood-Frame Construction handbook will be permitted.

Only diskettes provided to the contestant during the contest will be authorized for use. The installation use of user profiles will be permitted with prior approval of the committee.

Supplied by Contestant:

- Calculator
- Imperial Scale
- Writing/Sketching materials
- Pen / Pencil
- Canadian Building Code

Judging / Distribution of Marks

| Skills Canada BC Architectural CAD Drafting Contest | | | | | | |
|--|---|----|----|----|----|-----|
| Competitor Number | | | | | | |
| PRESENTATION (100 pts) | | | | | | |
| Layout | 0 | 4 | 8 | 12 | 16 | 20 |
| Plotted to scale | 0 | 8 | 16 | 24 | 32 | 40 |
| Balanced presentation (white space) | 0 | 4 | 8 | 12 | 16 | 20 |
| Appropriate Layers & Linetype (colors) | 0 | 3 | 6 | 9 | 12 | 15 |
| Title block & Attribute information | 0 | 1 | 2 | 3 | 4 | 5 |
| | | | | | | |
| REVISED PLAN(380 pts) | | | | | | |
| Construction Dimensions | 0 | 20 | 40 | 60 | 80 | 100 |
| Door & Window Notations | 0 | 8 | 16 | 24 | 32 | 40 |
| Linetype/Layer conventions | 0 | 4 | 8 | 12 | 16 | 20 |
| Legibility of numbers and text | 0 | 20 | 40 | 60 | 80 | 100 |
| Hatching for "new construction" | 0 | 4 | 8 | 12 | 16 | 20 |
| Accuracy of Construction Plan | 0 | 20 | 40 | 60 | 80 | 100 |
| | | | | | | |
| DRAFTING CONVENTIONS (200PTS) | 0 | 15 | 30 | 45 | 60 | 75 |
| LT Scaling | 0 | 10 | 20 | 30 | 40 | 50 |
| Structural Notations | 0 | 5 | 10 | 15 | 20 | 25 |
| | | | | | | |
| REVISED ELEVATIONS (150 PTS) | | | | | | |
| Drawing accuracy | 0 | 4 | 8 | 12 | 16 | 20 |
| Alignment and accuracy of views | 0 | 6 | 12 | 18 | 24 | 30 |
| layout and presentation | 0 | 6 | 12 | 18 | 24 | 30 |
| Completeness of views | 0 | 6 | 12 | 18 | 24 | 30 |
| Inclusion of roof pitch notation | 0 | 4 | 8 | 12 | 16 | 20 |
| No apparent superimposition of lines | 0 | 2 | 4 | 6 | 8 | 10 |
| Hatching selection & inclusion | 0 | 2 | 4 | 6 | 8 | 10 |
| | | | | | | |
| DIMENSIONING (150 PTS) | | | | | | |
| All construction measurements present | 0 | 10 | 20 | 30 | 40 | 50 |
| Positioning of measurements | 0 | 8 | 16 | 24 | 32 | 40 |
| Dimension Properties (arch ticks, fractions) | 0 | 4 | 8 | 12 | 16 | 20 |
| Dimensioning conventions (mid of int walls, out of ext) | 0 | 4 | 8 | 12 | 16 | 20 |
| Presence of required annotations | 0 | 4 | 8 | 12 | 16 | 20 |
| TIMELINE FOR COMPLETION | | | | | | |
| <1.5H=60, <2H=40, <2,5H=20, <3H=0 | | | | | | |
| PLOTTING | | | | | | |
| Plotted Drawing to scale | 0 | | | 40 | | |

Technical Committee:

Jim Christiansen

Technical Chair

jim.c.christiansen@gmail.com

If your contest is run as a virtual, please note the following:

All Virtual CAD Architectural Contests have a registration deadline of February 21, 2011. The project will be sent to the supervising teacher on February 21-25, 2011. The Project must be done on one day that week. The finished product must be received by Skills Canada BC by March 4 2011. Any submissions received after **March 4 2011** will not be judged. All submissions will be judged by a panel of experts arranged by Skills Canada BC. All project submissions must be mailed on paper (not on CD or other computer format). The successful competitors will be notified prior to April 6, 2011 if they qualify for Provincials.

In order to receive your contest package, **the teacher sponsor must register his/her student(s) prior to February 21, 2011.**

Your contest package will then be forwarded to you on the morning of Feb. 21, 2011, by email. The package is in .pdf format. **The finished project must be received by Adam Thorvaldson, Skills Canada BC 3777 Kingsway Burnaby, BC V5H 3Z7, 604-432-4229, on or before March 4 2011. Any submissions received after this date will not be eligible for judging.**