

**2012 Nova Scotia Skills Competition**  
**Official Competition Name: Mechanical CADD**  
**Competition Level: Post Secondary**

**Competition Scope**

**The purpose of the challenge is to evaluate each competitor's preparation for employment in the field of Mechanical Computer-Aided Drafting and Design, and to recognize outstanding students for excellence and professionalism in their field.**

**Number of Stations**

**There will be a total of 6 workstations for the competition.**

**Specific spots allotted to Campuses**

<b>School/Campus</b>	<b>Number of available spots</b>
<b>NSCC/ Lunenburg Campus</b>	<b>3</b>
<b>NSCC/ Waterfront Campus</b>	<b>3</b>

## Skills and Knowledge to be Tested

**The challenges will consist of practical measuring/drafting/modeling work.  
There is no written exam.**

**Competitors will demonstrate their ability to efficiently perform measurement,  
Computer-Aided Drafting, and 3D modeling.**

### **a) Types of Drawings**

- 1. Detail drawing prepared by measuring a physical part**
- 2. 3D Assembly drawing prepared from detail drawings provided**

### **b) Drawing views, as required:**

**Orthographic views  
Section views  
Detail views  
Isometric views**

### **Note: Drawings should:**

**Conform to current ANSI standards.  
Show coordinate dimensioning except where instructed to show GD&T.  
Indicate material selection and specifications as may be required.  
Specify any required manufacturing processes.**

### **c) Computer-Related Techniques**

**Customize Windows to suit the competitor, as may be required.  
Establish/set CADD program options and parameters.  
File management**

## **Prerequisite Skills and Knowledge**

**Interpret and prepare drawings according to ANSI standards**

**Knowledge of materials and manufacturing processes**

**Reading and interpreting drawings**

**Proficiency with conventional dimensioning**

**Proficiency with geometric dimensioning and tolerancing (GD&T)**

**CADD technology:**

**Proficiency with AutoCAD© 2011**

**Proficiency with Autodesk Inventor© Professional 2011  
Part & Assembly modeling (not including Content Center or Vault)**

**Competitors will be required to complete the solid modeling portions of the competition using non-parametric solid modeling techniques.**

## **Equipment, Tools, Supplies, and Clothing**

### **EQUIPMENT AND MATERIALS: Supplied by Skills Nova Scotia**

**Each competitor is restricted to a table top work space of approximately 36" x 30".**

**A Pentium IV computer with 1 GByte of RAM, running Windows XP, will be the minimum caliber of competition workstation. All workstations will be equipped with a mouse pointing device, USB port, CD ROM drive, headphone connector, and 17" monitor.**

**AutoCAD© 2011, and Autodesk Inventor© Professional 2011, will be the official CADD programs used in the competition.**

### **EQUIPMENT AND MATERIALS: Supplied by competitor**

**6" vernier caliper (slide, dial or digital)**

**Paper, pens, and pencils**

**Competitors are encouraged to wear headphones to help isolate competitor from external noise and distractions**

**Competitors may bring: texts, reference books, software reference manuals, tables, and calculators.**

**Reference materials may not be shared between competitors.**

**Materials brought by a competitor are subject to inspection and approval by the judges.**

**Appropriate attire suitable for a Provincial championship is required.**

## **Point Breakdown**

**Competition challenges consist of work that will be marked according to the following:**

**50% - measure and prepare a detail drawing of a sample part.**

**50% - prepare 3D part models, a 3D assembly model, and an assembly drawing,**

**100% Total**

**Please note: a more detailed breakdown of the marking scheme will be available during the competition.**

## **Technical Committee Members and Judges**

**Bill Ferguson**

**former Instructor, Mechanical Engineering Technology  
NSCC-Institute of Technology Campus**

**James Blinn**

**Instructor, Mechanical Engineering Technology  
NSCC-Waterfront Campus**

**Darrell Luedey**

**Instructor, Mechanical Engineering Technology  
NSCC-Waterfront Campus**

**Earl Peeples**

**Designer / Foreman**

**STAT Manufacturing Ltd.**

**2004 Skills Nova Scotia Gold Medal Winner**

**(Mechanical CADD Post Secondary)**

**2004 Skills Canada Silver Medal Winner**

**(Mechanical CADD Post Secondary)**