

# Model Wind Turbine Competition



## What is the Model Wind Turbine Competition ?

Given a set of specific materials to work with, students use their skill and ingenuity to design and construct a working model wind turbine. The turbine needs to be solidly constructed and be able to generate electrical power.



## The Challenge

Gender mixed teams of four students (from the same school) will design and construct a model wind turbine.

Design and construction will be judged by a panel of expert judges. Turbine voltage-generating capacity will be measured electronically and competitively in a progressive play down. Students will be given the materials to construct the turbine, and will have approximately 2 hours of building time.



## Who is it geared for?

Grade 9 and 10 students who are up to the challenge. Those who participate will have a great time! The experience helps develop new skills, in addition to strengthening their leadership, teamwork and problem solving ability.



**Who is Skills Canada Manitoba?** Skills Canada Manitoba is a not-for-profit, charitable organization that works with youth, parents, communities, industry and government to increase awareness of the rewarding careers available in skilled trades and technology.

# October 30, 2018

### What is the cost?

Each team is responsible for a **\$80.00** team entrance fee which includes:

- 1—Small DC motor with mounted LED
- 4 Poster board, 22" x 28", sheets
- 1 Balsa wood, 4" x 36" x 1/8", sheet
- 1 Balsa wood, 4" x 36" x 1/16", sheet
- 1 Particle board base, 12" x 12" x 5/8", piece
- 1 tube adhesive
- 1 roll masking tape
- 3 wood propeller mounts, circles, 1.75" diameter
- 1 retractable utility knife
- 1 pair scissors
- 1 geometry set
- Pencils
- Sandpaper

Note: No other tools or materials will be allowed in the construction of the model wind turbine

Lunch will be provided for each participant and one advisor.

\*Please note that this event will be held in the South Gym at Red River College, Notre Dame Campus.

**The \$80 team entrance fee must be received by the Skills office by October 16, 2018.**



### Awards

- **Best Design**—Skills Manitoba trophy
- **Best Construction**—Certified Technicians and Technologists (CTTAM) trophy
- **Highest Voltage**—Red River College trophy

### Schedule for the Day

|                 |   |
|-----------------|---|
| 9:00am-9:30am   | Arrivals and Registration                       |
| 9:30am-9:45am   | Announcements/Instructions                      |
| 9:45am-10:45am  | Turbine Construction                            |
| 10:45am-11:00am | Break (advisors may consult with team)          |
| 11:00am-12:00pm | Turbine Construction                            |
| 12:00pm-12:45pm | Lunch (provided).                               |
| 12:45pm-1:30pm  | Final Touch Ups/Turbine Design and Construction |
|                 | Judging   |
| 1:30pm-2:30pm   | Voltage Generation competition play down        |
| 2:30-2:45pm     | Awards presentations                            |



### Send completed registration forms and fees to:

Skills Canada Manitoba  
Unit 31-1313 Border Street  
Winnipeg, MB R3H 0X4

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