



November 20, 2008

Thank you for agreeing to participate in our National Engineering Week Project for 2009 – Engineering Idol!

We are members of Professional Engineers Ontario, which is the licensing body for the 65,000 Professional Engineers in Ontario. It fulfils the same role for Engineers as the College of Physicians and Surgeons for Doctors and the Law Society of Upper Canada for Lawyers. Professional Engineering can be a very rewarding career for many and we are always interested in ways to interact with students as they begin considering career choices for themselves.

Professional Engineers Ontario is organized at the local level through 37 “chapters” across our province. The Etobicoke Chapter represents just over 1,000 Engineers in our community. We do many activities through the year to promote our profession in the community and among our members. Every year we run an active National Engineering Week Program in local high schools. We thank you for having been an active participant in these efforts in the past. During National Engineering Week, we generally visit with over 200 Etobicoke students considering Engineering as a future career choice.

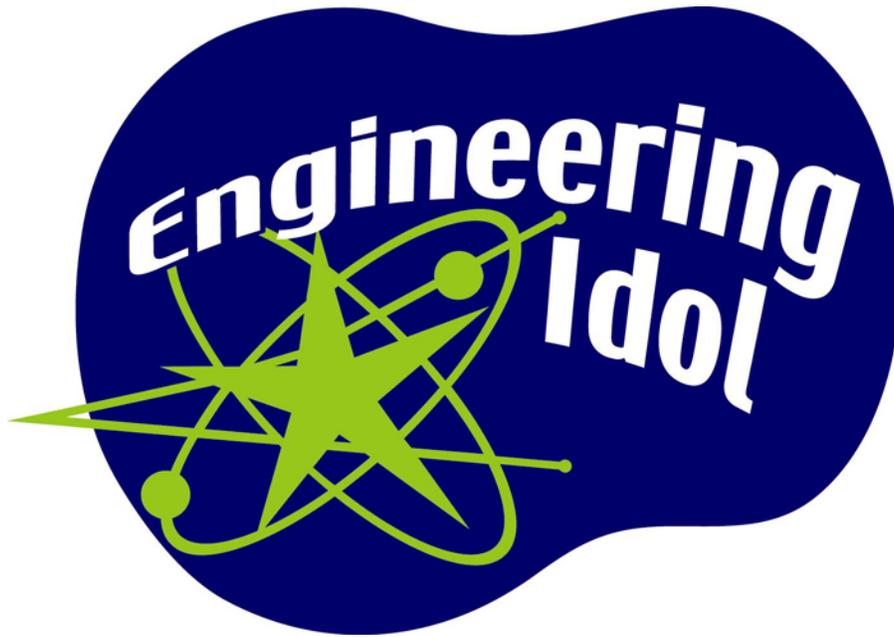
We thank you for your support in our efforts to develop Engineering Idol further in 2009. Please visit our website at [www.engineeringidol.com](http://www.engineeringidol.com) to see how things look. We hope you will find this package informative and provides you with the background information you will require in answering questions for your students. We have included contact information should you have questions arise in the upcoming months. We look forward to meeting with you in January.

Regards

Richard Weldon, P.Eng.  
Chair, National Engineering Week Sub-Committee



National Engineering Week  
2009



Professional Engineers Ontario  
Etobicoke Chapter



## **Engineering Idol - Some Quick Facts for Students and Teachers**

### **What is Engineering Idol?**

Engineering Idol is a National Engineering Week program run by the Etobicoke Chapter of Professional Engineers Ontario. National Engineering Week occurs at the end of February or beginning of March every year and Engineers across Canada celebrate engineering and help generate public awareness in what we do.

This year, students from 7 local high schools are invited to form a school team and compete on an engineering project or problem. Their solutions will be judged by Professional Engineers. The winning school takes possession of the coveted Engineering Idol trophy for the year, prizes are awarded to the top 3 teams and participation and recognition plaques awarded to all teams.

### **What schools will be participating in 2009?**

For 2009, the 7 competing schools are:

- Martingrove Collegiate Institute
- Etobicoke Collegiate Institute
- Michael Power Catholic Secondary School
- Richview Collegiate Institute
- Silverthorn Collegiate Institute
- Bishop Allen Academy Catholic Secondary School
- Scarlett Heights Entrepreneurial Academy

### **How big will the teams be?**

Each team will consist of 4 to 6 students with a teacher or supervisor for moral support! The students can be from any grade, but typically more senior grades participate.

### **When and Where will the competition be held?**

The competition is set for Saturday, February 28, 2009. The location of the competition will be at a neutral school in the Etobicoke area that will be announced closer to the competition date. We are planning lots of activities that day as part of a National Engineering Week celebration.

Friends and family are welcome.

### **Who is the Reigning Champion?**

In 2008, Michael Power Catholic Secondary School won the first Engineering Idol competition. Congratulations and best of luck to all the teams for 2009!

### **What will the project be?**

The project is a *secret* and will not be unveiled until the week of January 5, 2009. A Professional Engineer will come to the school and meet with the team at that time to make the announcement, answer questions and give details around the competition day. One hint is that the project for 2009 will be related to '*efficient building design*'.



### **How does the project work?**

The project is designed for high school students to apply many of the scientific principles they have learned in science to an engineering project. Students will have sufficient information at the unveiling that they could spend the subsequent 6 weeks researching the variables around the project. A Professional Engineer with expertise in the relevant technology will be available to interact with the students on a limited basis leading up to the competition day.

### **What happens at the unveiling?**

During the week of January 5th, a Professional Engineer will visit each of the competing schools. At that time, the teams will learn what the secret project will be and what the judging criteria will be. Each team will build a 'machine' on competition day and one of the judging criteria will be the demonstrated performance of the 'machine'.

Don't worry though – the project is intended to be fun and the testing of the machines is expected to be exciting for all participants!

Use the 6 or 7 weeks ahead of the competition day to research the technology and submit a concept design by Monday, February 6<sup>th</sup> (just so we can check you are on the right track). You also need to prepare a shopping list, purchase materials (keep receipts so we can reimburse you) and come prepared to build your prototype on competition day. There will be a limit on the amount of money that can be spent.

### **What do I have to bring to the competition day?**

Bring your research notes, questions, materials and enthusiasm! Also bring your appetite as we plan to have food! Also, bring a formal PowerPoint (2007 or earlier) presentation so you can wow the judges and the other competitors.

### **What is the purpose of the competition?**

The Profession of Engineering is more than just calculations and science. A successful engineer must be able to solve a complex problem, often in little time, with several teammates who may have different solutions or ideas. Communication is a big part of engineering so be prepared to talk with our judges about your team, project, research and participation. Hopefully you will experience what it is like to be a Professional Engineer and help you decide if you would like engineering as your Profession!

### **I heard something about prizes?**

Yes! If our funding plan is successful, we are planning to award monetary prizes: \$400 for first place, \$300 for second place and \$200 for third. Each team decides what it will do with this money.



## **Important timelines!**

### **September 2008**

The Etobicoke High Schools are contacted about participating in Engineering Idol for National Engineering Week 2009.

### **November 2008**

The high schools accepting the challenge are provided information about the program, what is expected of the school team and what they can expect for support from the participating Professional Engineers.

### **November 2008 to January 2009**

The high schools pick their school's Engineering Team of 4 to 6 students and solicit a teacher or supervisor from the school to help coach the students. Each student should be available to attend the competition day on Saturday, February 28, 2009.

### **Week of January 5, 2009**

A Professional Engineer meets with the school teams to *unveil* the competition project for that year. Expectations of the team on competition day will be clarified. The judging criteria and a list of materials that will be available on competition day will be delivered. The team is expected to determine how best to research and plan their entry over the upcoming weeks. A Professional Engineer with expertise in the chosen technology will be available on a limited basis to 'consult' with the students (via email).

### **Friday, February 6, 2009**

The concept design package is submitted by each school to demonstrate everyone is on the right track. The package needs to include the concept design, list of materials required and budgetary cost to build the prototype and a list of tools that you will require to build your prototype. This will allow the tools to be arranged for the Competition Day, if the students require.

### **Wednesday, February 11, 2009**

Teams receive final approval regarding their concept design package so that everything is good to go for the Competition Day! If there is anything special about your design that hasn't been identified, the organizers will attempt to contact you—for instance if you need a special tool that isn't available that you should bring with you.

### **Saturday, February 28, 2009 – Competition Day**

Students arrive with their notes, sketches, materials and are ready to build their 'machine'. Several hours will be given to the construction of the 'machines' during which time Professional Engineers will interact with the teams. Once the 'machines' are built, there will be a testing period where the performance and efficiency of each machine compared to engineering specifications will be determined. Each team will have the opportunity to give an oral presentation on their invention and what they learned about Engineering. While the judges



deliberate over the performance of each team, a Professional Engineer will give a talk to the group either on Engineering as a Profession or as an expert in the Technology just explored by the teams. Prizes will be announced, awarded and all will be invited to stay for a small celebration afterwards.

### **Mid March 2009 – Debriefing**

We need the student teams' feedback for next year! We will contact teams to discuss the competition and allow you to give us your thoughts on the experience.

### **What is the commitment from the school?**

The following commitments are required to make Engineering Idol successful:

1. The competition will not work if one team is unable to make the competition day. Please do not agree to participate unless you are certain you can send a team.
2. **January 5, 2009** - The high schools need to submit to us their form (next page) listing the names of the teacher and student team members.
3. **Saturday, February 28, 2009** - The Team needs to be available for most of the day to compete in the activity.
4. The competition is a volunteer event for the Professional Engineers and others involved. The event is intended to be fun and educational. Please be respectful of this objective, your team members, the other teams, the volunteers and the public.
5. Please have the team available for a de-briefing session in mid-March 2009 so we have the opportunity to improve the program for 2010.

### **What is the commitment from Professional Engineers Ontario Etobicoke Chapter?**

1. Help and support the teams leading up to and the day of the competition.
2. Organize the event including location, event lunch,
3. Organize the de-briefing sessions.
4. Provide judges, judging materials and prizes.



**Team Selection Form – Due January 5, 2009**

School Name: \_\_\_\_\_

Supervising Teacher or Volunteer: \_\_\_\_\_

Names of Students (4 – 6 in total)	T Shirt Sizes	Food Allergies (No/Specify)
1. _____	M/L/XL/XXL	No/_____
2. _____	M/L/XL/XXL	No/_____
3. _____	M/L/XL/XXL	No/_____
4. _____	M/L/XL/XXL	No/_____
5. _____	M/L/XL/XXL	No/_____
6. _____	M/L/XL/XXL	No/_____

Please return (on or before the due date) to:

Richard Weldon, P.Eng.  
37 Shaver Ave. N  
Etobicoke, ON  
M9B 4N5

Email: [Richard@cdwengineering.com](mailto:Richard@cdwengineering.com)



### **Choosing Teams**

The schools are responsible for choosing the particular members of their teams. Sometimes, the best and most creative engineers are not necessarily the strongest students academically. Ideally, those who may not have explored yet, but might be interested in exploring engineering as a career option, are those who are ideal for the competition.

### **Contact Information**

The members of the National Engineering Week Sub-Committee for the Etobicoke Chapter are below:

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### **Notice**

PEO, its employees, contractors and volunteers shall not be responsible for, and all contestants hereby release and forever discharge PEO, its employees, contractors and volunteers from any and all claims, suits and demands for any loss, damages or injury howsoever arising except of caused by the gross negligence of PEO, its employees, contractors and volunteers.