



FOURTH ANNUAL WEAO

STUDENT DESIGN COMPETITION 2012

ENTRY GUIDELINES

November 2011

INTRODUCTION

The Water Environment Association of Ontario (WEAO) Student Design Competition (SDC) is intended to promote “real world” design experience for students interested in pursuing a career and/or education in water and wastewater engineering and sciences. This competition tasks individuals or teams of student members within WEAO to design and present a program meeting the requirements of the project statement. The SDC will be held at *41st Annual WEAO Technical Symposium and OPCEA Exhibition* that will be held in Ottawa in April 2012.

For more information, contact:

Dale Jackson, Chair of the WEAO New Professionals Committee

Email: Dale@acgtechnology.com

Rafiq Qutub, Sub-Committee chair for the WEAO Student Design Competition

Email: rafiq.qutub@aecom.com

The WEAO New Professionals Committee (NPC) is always looking for interested persons to help further the activities supported by the committees. If you are interested in helping or becoming a member please contact [Dale Jackson](#).

BACKGROUND

The WEAO student design competition concept is based the Water Environment Federation (WEF) Student Design Competition, a competition held annually at WEFTEC, the *Water Environment Federation's Annual Technical Exhibition and Conference*. The WEAO SDC is intended to showcase the talents of students in colleges and universities across Ontario who are interested in the water environment field.

This year's design problem has been kindly provided by The Norfolk County. The design challenge is the design of an expansion to the Port Dover Water Pollution Control Plant (WPCP) in Port Dover. The project statement is available at the SDC's website at <http://www.weao.org/sdc/>.

Students are given one semester to finalize their design with the appropriate recommendations. Registered teams will be asked to present their design solution at the *41st Annual WEAO Technical Symposium and OPCEA Exhibition* that will be held in Ottawa in April 2012. The first place winner of the WEAO SDC will be invited to compete at WEFTEC with the same design challenge. WEAO will provide sponsorship for 4 members of the winning team to represent Ontario at WEFTEC 2012 in New Orleans, Louisiana.

SCOPE OF WORK

The SDC is based on challenges relating to the water environmental field. Typical design challenges include sewer design (collection & distribution system analysis), wastewater treatment plant expansions, biological treatment, reuse, constructed wetlands, sustainability efforts, etc. The scope and extent of the project is normally at the level of a senior or graduate engineering/science student in a design or capstone course. Students are expected to work with little assistance from an industrial advisor and/or

professor and the students are expected to work together as a team to recommend a solution. Students may use whatever references or resources they choose.

The SDC is not intended to be an academic exercise. Rather, the intent is to provide students with the opportunity to apply their acquired knowledge on a real world problem. The WEAO SDC Sub-committee seeks to provide real projects from municipalities across Ontario. Student teams will work as though they were consultants in the industry. Hence, challenges will not be restricted to technical issues but also include time constraints and financial considerations.

Students are expected to perform the necessary design calculations for the project. However, the SDC is not intended to be a research project or literature review. Although some initial literature review and/or research will be required, the bulk of the project should incorporate pertinent calculations for the design. All of the design work should be submitted in the design report (notebook), clearly labeled and referenced. See below for information regarding the design report.

TIMELINE

The typical time required for the completion of the design requirements is 3 – 4 months prior to the competition. A preliminary timeline is shown below. It should be noted that the dates are given only as a guideline and may be adjusted. The WEF SDC timeline is presented as well.

| | |
|------------------------|---|
| November 3, 2011 | WEAO NPC announces the Student Design Competition 2012 and publishes the project statement and guidelines. |
| November 18, 2011 | Deadline for teams to submit the Entry Form. |
| December 3, 2011 (TBC) | Site visit (Port Dover WPCP, Norfolk County, Ontario). |
| January 23, 2012 | Deadline for submitting the project progress report (1 page). |
| March 30, 2012 | Deadline for participating teams to submit the design report and CDs. Package shall be postmarked no later than this date. |
| April 22, 2012 | SDC presentations at the 41 th Annual WEAO Technical Symposium and OPCEA Exhibition at the Ottawa Convention Centre in Ottawa. |
| April 23, 2012 | Presentation of awards to the winning teams at the Award Luncheon. |
| May 1, 2012 | Deadline for submitting the entry form to participate in the WEF SDC 2011 in Los Angeles. |
| August 1, 2012 | Deadline for submitting the abstract not to exceed 200 words for the WEF SDC. |
| September 1, 2012 | Deadline for submitting the design report and CDs to the WEF SDC. |

REQUIREMENTS OF THE WEAO SDC

1. To be eligible in the SDC, each participant must be:

- A student member of WEAO/WEF;
- A registered full-time or part-time student at a college or university in Ontario; and,
- Selected by his/her student chapter to participate in the SDC.

To be thus certified, a new WEAO/WEF student member must have filed an application and paid the required membership dues before **March 1, 2012**. The same holds true for continuing student members. Note that student membership in WEF automatically provides student membership in WEAO.

The WEAO SDC Sub-committee realizes that schools willing to participate may not have a WEAO Student Chapter. Therefore, as long as the participants are WEAO/WEF student members they will be allowed to participate. For more information on WEAO/WEF membership please visit <http://www.weao.org/membership/membership.html>

2. Student teams must submit an SDC Entry Form (attached at the end of this document) by November 18th, 2011 to be entered into the competition. Completed Entry Forms should be sent to Rafiq Qutub (rafiq.qutub@aecom.com), with copies to William White (William.White@ch2m.com) and Kirill Cheiko (Kirill.Cheiko@stantec.com).
3. Participation is limited to college and university students. Persons who are working full time and have graduated from an undergraduate or graduate program prior to September 2011 are not allowed to participate.
4. Student teams may consist of more than four members. However, only four (4) student members may present at the WEAO SDC.
5. Participants are allowed to use any name for their team. However, the teams may not use the name of any existing companies or use any copyrighted names. In addition, the name must always be used in conjunction with the college or university for ease of identification (for example, Team Alpha Consultants, Sheridan College).
6. A college or university may have more than one team participating at the WEAO SDC 2012. However, the teams should have different names to avoid confusion.
7. There is no limit on number of teams per university or college to participate. The winner of the first place at the WEAO SDC will automatically receive WEAO's sponsorship compete at WEFTEC. WEAO funding will reimburse only one team comprised of four (4) students for travel, lodging, meals and transportation to the WEF SDC.
8. Student teams will compete through written and oral presentations:
 - Written: A design report (notebook) complying with the requirements set forth in this guidelines document must accompany each entry.
 - Oral: Each team's presentation will be 20 minutes followed by a 10 minute question and answer period. The presentation should be in PowerPoint format and able to be loaded onto a general laptop available at the competition site. No time extension will be provided beyond the 20 minute presentation time and teams exceeding 20 minutes will be asked to end their presentation.

- Both written and oral presentations are subject to questioning during the question and answer period. Questions will be primarily asked by the judges. However, questions from the audience may be permitted.

COMPETING AT WEFTEC

The first place winner of the WEAO SDC will automatically receive WEAO's sponsorship for four team members to travel and compete at the WEF SDC that will be part of WEFTEC. Please note that participating in the WEF SDC is subject to the guidelines set by WEF. The WEAO SDC and WEF SDC Guidelines are intended to be as close as possible. However, the rules, deadlines and requirements set in the most recent WEF SDC guidelines document override the WEAO SDC guidelines for purposes of participating in the WEF SDC.

If only one school (college or university) participates in the WEAO SDC, that school's student team may compete at WEFTEC given that they meet the WEF SDC guidelines and subject to approval by the WEF SDC Sub-committee. Similarly, student teams participating in the WEAO SDC that do not win the first place are allowed to apply to the WEF SDC at their own cost. However, the final decision to participate is at the discretion of the WEF SDC Sub-committee.

If a student team does not participate in the WEAO SDC but wants to participate in the WEF SDC, then that team should apply directly to the WEF SDC and follow the guidelines set forth by the WEF SDC Sub-committee. In addition, the team should cover their own travel costs. *WEAO will not financially sponsor any student teams that do not participate in the WEAO SDC and apply directly to the WEF SDC. WEAO will only sponsor the first place winner of the WEAO SDC.*

The estimated value of WEAO's sponsorship for the first place winner of the WEAO SDC is \$5,000. However, the exact budget is subject to change. The winning team will be reimbursed for all their travel and lodging costs. Original receipts must be kept and provided along with the reimbursement requests.

For more information on the reimbursement policy please contact the NPC Treasurer, **Germana Nunes**, Email: nunesg@bv.com

ENTRY FEE

There is no entry fee for the competition.

PROFESSOR OR FACULTY ADVISOR

Each team will be able to select a professor or faculty advisor who will act as a resource and a coach (but not a source to obtain solutions from) and the advisor can ask directed questions to point students in the right direction. Duties of the faculty advisor are to:

- Present and explain the project statement;
- Help students prepare for the site visit and ask the right questions;
- Guide students to commonly accepted design literature, as well as local, provincial and federal design standards;
- Participate in interim and final design review workshops with the students; and
- Assist students prepare for oral presentations and question and answer period.

CONSULTANT ADVISOR

Each team is permitted to seek out local engineering consulting firms for design help. It is acceptable and encouraged for a team's faculty advisor to share professional contacts of local engineering consultants with their team to assist in the mentoring process. In general, engineering consultants may volunteer to provide basic consulting assistance to the teams if asked, but students must take into consideration that engineering consultants may not be able to provide any help at all due to business demands or legal reasons.

Some services that consultants may provide the design teams include:

- Provide advice on cost information for commonly used materials and equipment, such as pipes, valves and concrete;
- Provide limited feedback on unit prices decisions; and
- Review of deliverables prior to submittal.

However, the consultants must not perform any of the following tasks for students:

- Check calculations;
- Write sections of the design report;
- Provide economic calculations;
- Provide treatment alternatives to consider;
- Select alternatives; or
- Conduct daily interaction with the team leader;

To ensure fairness in the competition, students will be required to submit project references with the final design report. The references list should include the names of consulting firms, manufacturers, and equipment vendors that assisted the student design team.

VENDORS AND EQUIPMENT SUPPLIERS

As engineering designers, the student teams will require input from equipment suppliers to size the right units and obtain pricing information. However, the student teams must be aware that the equipment suppliers are not supposed to complete the design for students. The student teams will be responsible for design calculations and the selection and specification of all equipment.

Student teams must be aware that equipment suppliers may be occupied with other business priorities. Therefore, student teams should provide adequate time for suppliers to provide the technical and pricing information. Student teams should not contact suppliers few days before the deadline. Instead, student teams should engage in preliminary discussions with equipment suppliers early during the design phase (January 2012).

The WEAO SDC Coordinator will provide the student teams with more information on vendors and equipment suppliers who are available to assist with the SDC.

NATURE AND MANNER OF PRESENTATION

It is recognized that environmental professionals must possess a well-developed ability to communicate both orally and in writing. The competition is designed to emphasize the value of delivering both high quality written and oral technical presentations. Scoring of the design will be determined through an evaluation of both the competitors' written and oral presentation skills, along with the technical content of the problem solution. Written and oral skills will be evaluated separately and the scores will be added for the total score (see Scoring Sheet Attachments B and C).

The written submission (submitted in electronic format) will be evaluated by the judges prior to the oral presentation. Scores on the written data will be submitted prior to the completion of the oral presentations. The written submission will be available to the judges during the oral presentation for their reference and the teams may be asked questions based on the information in the written submission.

DESIGN NOTEBOOK REQUIREMENTS

A vinyl, non-flexible, single volume, 1-inch three-ring binder shall be used to compile documents that describe the entry for judging. A CD containing an organized and easily viewed electronic copy of the design notebook shall also be created. An original hard-copy of the notebook and copies of the CD must be submitted to the Sub-Committee by the stated deadline. The Sub-Committee will inform students of the number of required CDs and hardcopies.

The project name, team name, and entrant's names shall be affixed to the spine and front of the design notebooks, as well as labeled on each CD. Teams are encouraged to print their notebooks double-sided and incorporate sustainable practices into their submittals. The design notebook and each CD shall include, in the following order:

1. **Entry Form** - Please use the original entry form supplied (see Attachment A).
2. **Abstract** – Provide a brief summary of the design, not to exceed 200 words.
3. **Project Description** – Provide a description of the project or program, including the following information:
 - A summary of the project team, including:
 - i. Each team member's role in the effort;
 - ii. The names of any other individuals that assisted in the effort
 - A discussion of the design solution (not to exceed 20 pages). The discussion must cover the salient facts upon which the recommendation is made, give a clear analysis of the evaluation technique, and present a clear recommendation of action. Relevant data should be presented in the discussion in a clear form. All elements shown on the judging form should be addressed.
4. **Supporting Documentation** – Provide drawings, calculations, tables, vendor submittals, cost estimates, and other voluminous documents, as appendices. There is no limit on the number of appendices or length of the appendix to include within the report. The appendices will not be scored in the Design Notebook scoring, however will be referenced by the judges during the scoring process and must accurately reflect the design.
5. **References and Acknowledgements**

ACCEPTABLE FORMAT OF THE DESIGN NOTEBOOK

All student teams must comply with the following format guidelines for the design notebook. Non-compliance will result in penalties (refer to the Penalties section for details). Please note that the WEAO SDC Sub-committee will not be able to review any submittal prior to the submission deadline.

- The pages of the main body of the design report must be 1-inch margins on all sides with single-spacing for paragraphs. Acceptable fonts are **Calibri**, **Arial**, or **Times New Roman** Fonts with 11-point font size only. Other font styles or font sizes are not acceptable.
- The maximum number of pages of the main body of the report is **20 pages**. The page limit does not include the cover page, entry form, acknowledgement page, abstract page, table of contents, list of tables/figures, list of acronyms/abbreviations, and list of references or any of the appendices.
- There is no specific “word count”. However, the pages of the main body of the report must not exceed 20 pages, based on 11-point font size and single-spacing of paragraphs.
- Colour diagrams, tables, or other charts may be included within the main body of the report. However, they will count towards the 20 page limit. Therefore, it is strongly suggested to include detailed charts, tables, diagrams, and photographs as separate appendices.
- All diagrams, figures, tables or charts, whether included in the main body of the report or enclosed as appendices, must be clearly titled with appropriate captions and referenced in the report.
- The use of headers and footers are optional. However, the page number must appear on the lower right-hand corner of every page of the main body of the report.
- The report must be organized in a logical fashion and headings should be used (for example, Introduction, Design Criteria, Design Alternatives...etc.). The structure and breakdown of the report is up to the teams.
- References and in-text citation must be used just as in any other academic paper. Providing information without acknowledging the source is considered plagiarism and unprofessional. The acceptable citation format is APA style.
- The use of footnotes, endnotes or other referencing and citation formats is not acceptable.
- Teams are encouraged to use a checklist to ensure all necessary documents are included in the design notebooks. Failure to ensure all documents are accounted for may result in a team penalty.

SUBMISSION OF DELIVERABLES

Student teams are responsible for submitting all entries on time. The Entry Form, Progress Report, and Final Design Notebooks must be submitted as explained below:

- **Entry Form:** All entry forms must be received by the WEAO SDC Sub-committee as a Word or PDF document by November 18, 2011 at the latest. Any forms received after this date may not be accepted.

Project Progress Report: The report must be submitted as a PDF document to the WEAO SDC Coordinator by January 23, 2011. The report should not exceed 1 page, and should discuss the progress of the design team, the work done up to date, the updated list of team members (if applicable), brief overview of the site visit, and the team's plan for the design project. The Progress Report is *not* intended to be a detailed description of the project. Rather, it is intended to assist the project teams in planning the project. The Progress Report will not be graded by the judges. However, teams that do not submit the Progress Report will have **5 marks** deduction from the final score.

- **Final Design Notebook and CDs:** The WEAO SDC Committee will inform to the student teams of the required number of binders and CDs before the deadline. Student teams shall submit the binders and CDs together as a complete package and send it by courier or registered mail to track it. The student teams will be responsible for printing and courier charges. The package must be postmarked no later than March 30, 2012. Packages postmarked after March 30, 2012 are subject to a penalty of 2 points per day up to a maximum of 7 days. Packages received after April 6, 2012 will not be accepted and the team will be disqualified (see disqualification section for details).

COMMUNICATIONS PROTOCOL

Questions from the student teams must be forwarded to the WEAO SDC Coordinator, who will obtain answers from Norfolk County if necessary. Answers related to the project will be published in addenda from time to time. The addenda will have a format similar to a Frequently Asked Questions document. The identity of the teams asking questions will not be revealed.

The student design teams are not permitted to speak directly with Norfolk County staff regarding the design competition. It is encouraged that students first obtain answers to questions from the available design literature, academic advisors, assisting consultant and from the WEAO SDC Coordinator, in that order. Students are encouraged to use initiative and work independently as much as possible.

A designated password-protected page for the WEAO SDC 2012 participants will be provided once the teams have submitted their Entry Forms. The designated page will contain the supporting documentation and published addenda.

If students have questions that cannot be answered by consulting design literature, or the team advisors and assisting consultant, the students should check the published addenda on the WEAO SDC page. If the question has not already been listed in any of the addenda, and having exhausted all resources, then the student lead should formulate the question and send it to the SDC Coordinator and their team advisor. The SDC Coordinator will, on a regular basis, post answers from Norfolk County on the WEAO SDC web page.

FACILITY SITE TOUR

An important hallmark of an environmental engineer is the ability to design practical solutions. Hence, visiting plant sites and observing processes in the real world is an integral part of the SDC experience.

There will be one mandatory facility tour organized by the WEAO NPC on a date to be announced. It will be required that at least one member of the student design team attend this facility tour. Travel expenses for participating team members will be reimbursed by WEAO through the Student Chapter's budget or by WEAO in case there is no student chapter formed.

SAFETY ON FACILITY SITE TOUR

Student teams will be required to have personal protective equipment (PPE) on when visiting the site. Normally, the PPE required at wastewater treatment plants include CSA-approved steel-toe boots, construction hard hat and safety glasses. In some cases, the facility owners may be able to provide the construction hats and safety glasses only. However, in the event that there are not enough PPE available, the team members attending the site tour will be responsible for obtaining their own PPE, CSA-approved including steel-toe boots at their own cost.

Students are normally allowed to use their own cameras to obtain photographs on site. However, it is subject to approval from Norfolk County.

More information on required PPE and details of the facility site tour will be provided in a separate document in November 2011.

JUDGING THE CONTEST

The same individuals will judge throughout the contest. Typically, the judging panel consists of four individuals from an academic institution, consulting firm, equipment supplier and from the sponsoring municipality. However, the number of judges and their affiliations may change from one year to another.

Competing student chapters and teams are allowed and encouraged to attend other team presentation. The scoring sheet has been developed for the convenience of the judges in evaluating both the design notebooks and presentations and will be used by the judges as the basis for judging all the student teams (see Scoring Sheet Attachments B and C).

JUDGING CRITERIA

WEAO is a multi-disciplined environmental professional organization dedicated to quality in practice of the profession. Accordingly, judging will be based on the elements outlined below and in the scoring sheets provided in Attachments B and C.

1. DESIGN NOTEBOOK:

- a. **Technical.** Was the notebook organized effectively with Introduction, Statement of Problem, Background information, etc? Was a continuous, logical sequence of steps taken to solve the design problem? Was the solution feasible & logical for problem statement? Was creativity and innovative approach shown? Was knowledge of subject demonstrated? Was the solution analyzed for economic feasibility; was this analysis presented? Bibliography, credit to resources & help presented?

- b. **Presentation.** Were visual aides (graphs, supporting info, pictures, etc.), presented clearly? Correct grammar, spelling & technical writing? Logical formatting, organization of report, table of contents? The judges will have the opportunity to comment on the design notebooks and presentations during the judging process. Judging scoring sheets and comments for each submittal will be made available to the corresponding team after the competition. Teams will not be allowed to view the entire scoring of any other team within the competition.

2. **PRESENTATION:**

- a. **Content.** Was technical subject matter relevant to design? To what extent was subject of interest to a technical audience? Was credit given for source of material or contribution by others? How much knowledge of subject was exhibited? Was work independent and original? Was subject technical or general in nature?
- b. **Organization.** Was there any novel approach to the subject? Was there sufficient background information provided in order to introduce the audience to the subject? Were facts developed in logical and continuous sequence? Was there a definite conclusion and was it adequately based on the facts or data presented?
- c. **Delivery and Effectiveness.** Were the words distinctly pronounced and was proper volume used to be heard by all? Did the contestant use proper English and was the vocabulary sufficient? Was personal appearance appropriate? Were there any distracting mannerisms? Was the manner of delivery (conversation, memorized, read from manuscript) satisfactory? If visual aids were used, how effectively were they used? Was the presentation completed within the time limit of 20 minutes?
- d. **Discussion.** Did the presentation evoke spontaneous questions from the panel? Did questions indicate the need for clarification of facts presented or were they merely of the type seeking additional information? How readily and with what self-assurance did the speaker answer questions? Did the answers indicate knowledge of subject beyond that disclosed in the original presentation?

AWARDS

The following are the awards that will be presented to the teams participating in the WEO SDC. The awards are subject to change at the discretion of WEO:

First Place

- Award recognition plaque
- Monetary award to cover student registration and travel expenses to WEFTEC (est. \$5,000)
- One year free WEF Student Membership 2012
- Participation letter from the WEO Board

Second Place

- Award recognition plaque

- Monetary award of \$400 for the team
- One year free WEF Student Membership 2012
- Participation letter from the WEAO Board

Third Place

- Award recognition plaque
- Monetary award of \$100 for the team
- One year free WEF Student Membership 2012
- Participation letter from the WEAO Board

All other Participants

- Certificate of Participation
- One year free WEF Student Membership 2012

The plaque awarded to a team becomes the property of that team's Student Chapter. In the event that a college or university does not have a student chapter, the plaque should be presented to a department that the team members agree to (for example, faculty of engineering, office of the dean, department of civil engineering etc.).

All participating teams will obtain one year free student membership with WEF/WEAO. The student membership has numerous benefits, including free registration at the Annual WEAO Technical Symposium and OPCEA Exhibition. In addition, student members will receive copies of INFLUENTS, WEAO's official magazine.

For the team awarded First Place on the WEAO SDC, the team will be invited to participate at WEFTEC '12 in New Orleans, LA. Prizes for the winner at WEFTEC will vary depending on sponsorship opportunities. Each team participating will receive a recognition plaque. Suggested monetary awards for the top two teams are: 1st place: \$2,500, and 2nd place: \$1,500. Remaining monetary awards are at the discretion of the WEF SDC Sub-Committee. First place teams will also be recognized at the Award Ceremony held at WEFTEC. Teams are encouraged to check the WEFTEC schedule and make necessary travel arrangements. The Awards Ceremony is typically held Tuesday afternoon, but is subject to change.

The WEAO SDC Sub-committee will not be involved in administering or organizing the competition at WEFTEC. However, the WEAO SDC Sub-committee will liaise with the WEF SDC Sub-committee to have the Ontario team participate at the WEF SDC.

WINNER'S OBLIGATIONS

The first place winner at the WEAO SDC will be required to compete at the WEF SDC at WEFTEC'12 in New Orleans in September/October 2012. Each member on the student team will be required to have WEF student membership prior to attending WEFTEC, in order to ensure student registration rate at WEFTEC.

WEAO will provide sponsorship for four (4) team members only. Other team members can attend WEFTEC at their own cost. Please note that the maximum number of presenters at the WEF SDC is four.

Individual teams members will be responsible for purchasing their own airfare and making the necessary hotel reservations. WEAO will reimburse travel and lodging costs as per the reimbursement guidelines.

Similarly, individual team members will be responsible for obtaining the necessary entry visa to the United States (if required). Participation in the WEF SDC and WEFTEC does not guarantee obtaining entry visas into the United States.

PENALTIES

Participating teams that do not comply with the guidelines set forth in this document may be subject to penalties. Penalties will be reflected as points against the total score for the design notebook and/or the presentation. Penalties include the following:

- Failure to submit the Progress Report by January 23, 2012 – **5 points**;
- Failure to submit a design notebook and/or the required number of CDs within the guidelines set forth herein – **10 points**;
- Failure to submit the final design notebook on time – **2 points per day, including weekends**, up to a maximum of 7 days.

If a team submits the design notebook but later realizes that they have submitted the wrong package, then they may be able to re-submit their package within the maximum of 7 days, that is, no later than April 6, 2012, subject to approval by the WEAO SDC Sub-Committee. The team must provide a clear justification for the need to re-submit their package. In addition, the team will be subject to a penalty of 2 points per day to a maximum of 14 points. Any packages received after April 6, 2012 will not be accepted and the team will be disqualified (see below).

In the event that discrepancies are found between the digital copy of the design report on the CD and the hard copy, the hard copy shall override and will be the basis for evaluation by the judges.

Teams will be notified of the penalties they have received prior to the competition at the 41st Annual WEAO Technical Symposium and OPCEA Exhibition.

The above penalties may be modified by the WEAO SDC Sub-committee. In this case the teams will be notified of any changes.

DISQUALIFICATION

A participating team may be disqualified from the WEAO SDC, even if they have completed their design work, if any of the following conditions apply:

- The team does not attend the mandatory site tour;
- The team does not submit their design notebook by April 6, 2012.
- Any of the team members is not a student member of WEF/WEAO by March 1, 2012.
- A non-student, such as a working engineer, completes or provides significant input to the design for the team;
- The team is found to have engaged in plagiarism; or
- The team is found to have engaged in an act that, in the sole opinion of the WEAO New Professionals Committee, is regarded as unethical or disgraceful.

Disqualification will prevent a team from presenting at the WEAO SDC that will be held at the 41st Annual WEAO Technical Symposium and OPCEA Exhibition.

PROJECT STATEMENT

The design challenge for the SDC 2012 is expansion of the Port Dover WPCP in the Norfolk County. Please refer to the SDC 2012 Project Statement on the SDC webpage for background information and design criteria.

QUESTIONS OR COMMENTS

Please contact Rafiq Qutub, Student Design Competition Sub-Committee chair for any clarification on any of the rules or guidelines of the competition. Email: rafiq.qutub@aecom.com

ATTACHEMENT 'A'

ENTRY FORM

ENTRY FORM

WEAO STUDENT DESIGN COMPETITION 2012

Name of College or University:

Name of Team (optional):

Name of Contact Person (Team Leader):

Address:

City: Province: Ontario Postal Code:

Email:

Name of Faculty Advisor:

Address:

City: Province: Ontario Postal Code:

Email:

Name of Consultant Advisor:

Company:

Address:

City: Province: Postal Code:

Email:

Names of Team Members: (use additional pages if necessary)

| Name | Email Address | Program | Year/Level |
|------|---------------|---------|------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

ATTACHMENT 'B'

DESIGN NOTEBOOK SCORING SHEET

SCORING SHEET
WEAO STUDENT DESIGN COMPETITION 2012

DESIGN NOTEBOOK

Name of Team (and University): _____

Project Title: _____

Judge: _____

Technical - 70 pts

1. Introduction, statement of problem, background information (5 pts)
 2. Continuity, logical sequence of steps to solution (10 pts)
 3. Conclusion, definite based on logical steps to solution (10 pts)
 4. Solution feasible & logical for problem statement (15 pts)
 5. Creativity, innovative approach, applicability (5 pts)
 6. Knowledge of subject & content (10 pts)
 7. Economic analysis, feasibility, presentation of economics (10 pts)
 8. Bibliography, credit to resources & help (5 pts)
- TOTAL (70 pts)** _____

Notebook Presentation - 30 pts

1. Visual aides (graphs, supporting info, pictures, etc.), presented clearly (10 pts)
 2. Grammar, spelling & technical writing (10 pts)
 3. Formatting, logical organization of report, table of contents (10 pts)
- TOTAL (30 pts)** _____

Penalties (*late submission, improper format, no Progress Report*).....

GRAND TOTAL (100 pts) _____

COMMENTS:

ATTACHMENT 'C'

DESIGN NOTEBOOK SCORING SHEET

SCORING SHEET
2012 STUDENT DESIGN COMPETITION
PRESENTATION

Name of Team (and University): _____

Project Title: _____

Judge: _____

Content - 45 pts

1. Technical subject matter relevant to design (20 pts)

2. Personal contribution, library research, innovative project (15 pts)

3. Knowledge of subject & content (10 pts)

TOTAL (45 pts) _____

Organization - 20 pts

1. Introduction, background (eliciting audience interest), objectives, presentation outline (5 pts) _____

2. Continuity, essential facts developed in a logical sequence (10 pts)

3. Conclusion, definite & based on facts (5 pts).....

TOTAL (20 pts) _____

Delivery & Effectiveness - 25 pts

1. Vocal delivery, conversation vs. memorized, volume, pronunciation, timing (10 pts).....

2. Body Language, eye contact with audience, distracting mannerisms (5 pts)

3. Visual aides' legibility & effectiveness (5 pts)

TOTAL (25 pts) _____

Discussion - 10 pts

1. Questions & Answers, Clarification & spontaneous responses (10 pts)

GRAND TOTAL (100 pts) _____

COMMENTS:

