

13<sup>th</sup> ANNUAL WEAO

**STUDENT DESIGN COMPETITION**  
**2021**

ENTRY GUIDELINES

April 2020



## 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 teams of student members within WEAO to design and present a solution meeting the requirements of the project statement. The SDC will be held virtually on March 27th, 2021. This year's project is organized in partnership with the Ministry of the Environment, Conservation and Parks, and has been graciously provided by the Region of Niagara.

The SDC is organized, in part, by the WEAO Young Professionals Committee (YPC). The YPC is always looking for interested persons to help further the activities supported by the committees.

For additional information regarding the SDC, or if you are interested in helping or becoming a member of the WEAO YP committee, please contact: [yp@weaocommittee.org](mailto:yp@weaocommittee.org).

## BACKGROUND

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

This year's design problem has been kindly provided by the Region of Niagara. The design challenge focuses on collection system improvements for the Port Dalhousie Wastewater Treatment Plant (WWTP), with an overall objective of reducing overflows and bypasses that occur during wet weather events.

Students are given approximately two semesters to develop and finalize their design with the appropriate recommendations. Registered teams will be asked to present their design solution on March 27th, 2021 at a virtual conference via a to be determined platform. Pending the impact of COVID-19, the first place winner of the WEAO SDC will be invited to an Awards Presentation at the *Annual WEAO Technical Symposium and OPCEA Exhibition* that will be held in London, Ontario from April 18-20, 2021 and to compete at WEFTEC where they will present the same design solution. WEAO will provide financial support for four (4) members of the winning team to represent Ontario at WEFTEC 2021 in Chicago, Illinois.

## 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, stormwater management, 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 (Google Drive), 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.

April, 2020	WEAO YP announces the 2021 SDC and publishes the project statement and guidelines.
June, 2020	Summer site visit (subject to approval and coordination with the Region of Niagara)
August, 2020	Deadline for submitting the first round of questions.
October 1, 2020	Deadline for teams to submit the Entry Form.
October, 2020	Virtual site visit to be uploaded for all teams (subject to approval and coordination with the Region of Niagara).
December 1, 2020	Deadline for submitting the second round of questions.
January 31, 2021	Deadline for submitting the project progress report (1 page).
February 2, 2021	Deadline for submitting the third round of questions.
March 14, 2021	Deadline for participating teams to submit an electronic PDF copy of their report to the Google Drive (link to be provided) and pre-recorded presentations.
March 27, 2021	SDC virtual conference and Q&A session (online platform TBD).
April 19, 2021	Presentation of awards to the winning team at the Award Luncheon
September, 2021	The winning team presents to the WEAO Board of Directors
May to October 2021	Preparation for the WEF SDC for the winning team.



## REQUIREMENTS OF THE WEAO SDC

### *Eligibility*

1. To be eligible in the SDC, each participant must be:
  - A student member of WEAO/WEF at the time of the competition;
  - A registered full-time or part-time student at a university (Undergraduate or Graduate) 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 **January 31, 2021**. 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.

It is encouraged that teams be formed from students of the same academic institution. However, if this is not possible or desired, teams may be formed from students of different schools so long as all individuals are eligible to participate. Should a team with participants from various schools win, the recognition plaque shall be awarded to the student chapter at the school which provides the academic advisor.

2. Student teams must submit an SDC Entry Form (attached at the end of this document) by the set deadline to be entered into the competition. Completed Entry Forms should be sent to [yp@weaocommittee.org](mailto:yp@weaocommittee.org).
3. Participation is limited to university students. Persons who are working full time and have graduated from an undergraduate or graduate program prior to September 2020 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 university for ease of identification (for example, Team Alpha Consultants, University of Toronto).
6. A university may have more than one team participating at the WEAO SDC 2021. However, the teams should have different names to avoid confusion.
7. There is no limit on the number of teams per university that can participate. The winner of the first place at the WEAO SDC will receive financial support from WEAO to compete at WEFTEC. WEAO funding may reimburse only one team, composed of four (4) students, for travel, lodging, meals and transportation to the WEF SDC.



8. Student teams will compete through written and oral presentations:

#### *Project Deliverables*

- Written: A design report (Google Drive) 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 be pre-recorded with audio from one or more team members. No time extension will be provided beyond the 20-minute presentation time and teams exceeding 20 minutes will have marks deducted. A question and answer period will be held virtually, where student teams will communicate with the judges panel.
- 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 as time allows.

#### **COMPETING AT WEFTEC**

The first-place winner of the WEAO SDC will receive financial support from WEAO for four (4) team members to travel and compete at the WEF SDC that will be part of WEFTEC 2021. Financial support from WEAO is conditional, is not guaranteed, and is subject to the WEAO Board of Directors' approval.

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 participates in the WEAO SDC, that school's student team may compete at WEFTEC given that they meet the WEF SDC guidelines and are subject to approval by the WEF SDC Sub-Committee. Similarly, student teams participating in the WEAO SDC that do not place first 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 support any student teams that do not participate in the WEAO SDC and apply directly to the WEF SDC. WEAO will only financially support the first place winner of the WEAO SDC. Financial support is conditional and not guaranteed.*

#### **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 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' preparation 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 a few days before the deadline. Instead, student teams should engage in preliminary discussions with equipment suppliers early during the design phase (January 2021).

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 (submitted as a pre-recording). Scores on the written data will be submitted to the organizers prior to the review 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 Google Drive link will be provided to each team to compile documents that describe the entry for judging. An organized and easily viewed electronic PDF copy of the design notebook, as described below (Points 1-6) will be submitted to the Google Drive. The design notebook must be submitted to the Sub-Committee by the stated deadline.

The project name, team name, and entrant's names shall be incorporated into the cover page of the design notebook. The design notebook 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 components of the project or program, including:
  - A description of different sections of the design report;
  - A summary of the project team and each team member's contributions to different sections of the design report; and,
  - The names of any other individuals that assisted with the effort.



4. 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.
5. **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.
6. **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 the deadline set in the timeline scheduled above. 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 the deadline set in the timeline scheduled above. 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 information gathered from the virtual 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:** Student teams shall submit their Design Notebooks to the Google Drive by the deadline set in the timeline scheduled above. Design Notebooks edited or uploaded to the Google Drive after that deadline are subject to a penalty of 2 points per day up to a maximum of 7 days. Design Notebooks received after one week of the deadline will not be accepted and the team will be disqualified (see disqualification section for details).
- **Final Design Presentation:** Student teams shall submit their Design Presentations to the Google Drive by the deadline set in the timeline scheduled above. Design Presentations edited or uploaded to the Google Drive after that deadline are subject to a penalty of 2 points per day up to a maximum of 7 days. Design Presentations received after one week of the deadline 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 the host municipality 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. Deadlines for submitting questions are outlined under the timeline.

The student design teams are **not permitted** to communicate directly with the host municipality staff regarding the design competition. All questions to the Host must be submitted through the WEAO SDC Coordinator during the allocated question periods. It is encouraged that students first obtain answers to questions from the available design literature, academic advisors, assisting consultants and from the WEAO SDC Coordinator, in that order. Students are encouraged to use initiative and work independently as much as possible.

A designated Google Drive folder for the WEAO SDC 2021 participants will be provided once the teams have submitted their Entry Forms. The designated folder 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 Google Drive. 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 the host municipality on the WEAO SDC Google Drive.

## FACILITY SITE TOUR

An important hallmark of a consulting 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.

Due to COVID-19 a virtual site tour will be conducted and shared with the design teams as background information, subject to approval and coordination with the host municipality.

## JUDGING THE CONTEST

The same individuals will judge throughout the contest. Typically, the judging panel consists of four to five individuals from a variety of backgrounds, including: academic institution, consulting firm, equipment supplier and the host municipality. 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 presentations. 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 the problem statement? Was a creative and innovative approach shown? Was knowledge of the subject demonstrated? Was the solution analyzed for economic feasibility and was this analysis presented? Bibliography, credit to resources and help presented?
- b. **Presentation.** Were visual aids (graphs, supporting info, pictures, etc.), presented clearly? Correct grammar, spelling and 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. DESIGN 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 the subject was exhibited? Was work independent and original? Was the 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 the subject beyond that disclosed in the original presentation?



## **AWARDS**

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

### **First Place**

- Monetary award to cover travel expenses to WEFTEC (subject to terms and conditions stated herein)
- Award recognition plaque
- Participation letter from the WEAO Board

### **Second Place**

- Award recognition plaque
- Participation letter from the WEAO Board
- Monetary Prize

### **Third Place**

- Award recognition plaque
- Participation letter from the WEAO Board
- Monetary Prize

The plaque awarded to a team becomes the property of that team's Student Chapter. In the event that a 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.).

For the team awarded First Place on the WEAO SDC, the team will be invited to participate at WEFTEC'21 in Chicago, Illinois. 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: 1<sup>st</sup> place: \$2,500, and 2<sup>nd</sup> 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'21 in Chicago, Illinois in October 2021. 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 financial support 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. Financial support from WEAO is conditional, is not guaranteed, and is subject to the WEAO Board of Directors' approval.

Individual team 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. 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:

- At least one member from each team shall view the virtual site visit. **Failure to do so may result in a 2-point penalty being assigned to the team's design notebook score.**
- Failure to submit the Progress Report by the deadline – **5 points.**
- Failure to submit a design notebook and/or a USB 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.**
- Failure to submit the final design presentation on time – **2 points per day, including weekends, up to a maximum of 7 days.**
- Teams must be present at the beginning of the virtual competition and remain through to the completion of the question and answer period. **Failure to do so may result in a 5-point penalty being assigned to the team's presentation score.**

If a team submits the design notebook and presentation but later realizes that they have submitted the wrong file, then they may be able to re-submit their Design Notebook and Presentation within the maximum of 7 days, subject to approval by the WEAO SDC Sub-Committee. The team must provide a clear justification for the need to re-submit their Design Notebook and Presentation. In addition, the team will be subject to a penalty of 2 points per day to a maximum of 14 points. Any Design Notebooks and/or Presentations received after one week of the submission deadline will not be accepted and the team will be disqualified (see below).

Teams will be notified of the penalties they have received prior to the virtual competition hosted via a to be determined platform.

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 submit their design notebook and presentation by the set deadline.
- The team fails to attend the virtual presentation and Q&A session.
- Any of the team members is not a student member of WEF/WEAO.
- 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.
- The team is found to have engaged in an act that, in the sole opinion of the WEAO Young Professionals Committee, is regarded as unethical or disgraceful.

Disqualification will prevent a team from winning the 2020-2021 WEAO Student Design Competition.



# ATTACHMENT 'A'

## ENTRY FORM



# ENTRY FORM

## WEAO STUDENT DESIGN COMPETITION 2021

**Name of 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: Ontario Postal Code: .....

Email:

.....



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

Name	Email Address	Program	Year/ Level	WEAO Member Number



## ATTACHMENT 'B'

# DESIGN NOTEBOOK SCORING SHEET



# SCORING SHEET

## WEAO STUDENT DESIGN COMPETITION 2021 -DESIGN NOTEBOOK

Name of Team (and University):

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Project Title:

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Judge:

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### Technical - 70 pts

1. Introduction, statement of problem, background information (5 pts) .....

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2. Continuity, logical sequence of steps to solution (10 pts) .....

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3. Conclusion, definite based on logical steps to solution (10 pts) .....

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4. Solution feasible & logical for problem statement (15 pts) .....

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5. Creativity, innovative approach, applicability (5 pts) .....

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6. Knowledge of subject & content (10 pts) .....

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7. Economic analysis, feasibility, presentation of economics (10 pts) .....

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8. Bibliography, credit to resources & help (5 pts) .....

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**TOTAL (70 pts)** \_\_\_\_\_

### Notebook Presentation - 30 pts

1. Visual aides (graphs, supporting info, pictures, etc.), presented clearly (10 pts) .....

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2. Grammar, technical



Water Environment Association of Ontario  
Young Professionals

spelling & 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:**

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## **ATTACHMENT 'C'**

# **PRESENTATION SCORING SHEET**



## SCORING SHEET

### WEAO STUDENT DESIGN COMPETITION 2021 - PRESENTATION

Name of Team (and University):

\_\_\_\_\_

Project Title:

\_\_\_\_\_

Judge:

\_\_\_\_\_

\_\_\_\_\_

#### Visual Presentation - 10 pts

1. Professionalism and overall appearance (5 pts) .....

\_\_\_\_\_

2. Visual aides' legibility and effectiveness (5 pts) .....

\_\_\_\_\_

\_\_\_\_\_

**TOTAL (10 pts) \_\_\_\_\_**

#### Organization - 40 pts

1. Introduction, background (eliciting audience interest), objectives, presentation outline (10 pts)

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2. Continuity, essential facts developed in a logical sequence (20 pts) .....

\_\_ 3. Conclusion, definite & based on facts (10 pts) .....

—

**TOTAL (40 pts) \_\_\_\_\_**

#### Delivery & Effectiveness - 40 pts

1. Vocal delivery, conversation vs. memorized, volume, pronunciation, timing (15 pts) .....

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2. Body Language, eye contact with audience, distracting mannerisms (10 pts) .....

\_\_ 3. Visual aides' legibility & effectiveness (15 pts) .....

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**TOTAL (40 pts) \_\_\_\_\_**

#### Discussion - 10 pts

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



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**GRAND TOTAL (100 pts)**

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**COMMENTS:**

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