



# **Rain It In Student Competition**

## **Fall 2022 Competition Guidelines**



## Introduction

Rain It In is a competition that challenges post-secondary students to create climate resilient solutions that have a specific focus on intense rainfall and flooding. The competition provides a unique experiential learning opportunity for students to apply their knowledge and skills to a real-world problem affecting our communities. After the competition, Rain It In connects interested students with resources, mentors and programs to help with the transition from an idea to entrepreneurship and product commercialization.

For each competition, Rain It In partners with a municipality who provides a specific challenge for the students to solve. Rain It In's Fall 2022 challenge has been generously provided by **The City of London**.

Rain It In's Fall 2022 Student Competition runs from October 1 - November 30, 2022. The first-place award is a seed grant worth \$5,000 and a \$500 cash prize. Registration closes October 1, 2022 and project deliverables are due November 6, 2022. The top five teams will be invited to present live on November 30<sup>th</sup>, 2022

## About the Sponsor

The City of London is the municipal government for London (Canada), located in southwestern Ontario with a population of approximately 422,000. London is the 11th largest metropolitan area in Canada and is among the fastest growing cities in the country. Situated along the Thames River and within the Upper Thames River Conservation Authority (UTRCA) area, London experiences flooding during severe weather events. In response, the City is working to improve its aging infrastructure.

London was one of the first cities in Ontario to create a stormwater charge to support the implementation of stormwater infrastructure that protects the City, residents, and the environment. Today, the City continues to make rapid improvements to mitigate the impacts of climate change and the increasing frequency of severe storms.

## The Problem

Stormwater, its impacts, mechanisms, and mitigation strategies are complex systems that can be difficult for the public to understand. This creates challenges for civil services to justify large capital investments into infrastructure, or programs and policies to protect public property and environmental health. Sometimes, the public does not understand the impacts of their own actions on aging infrastructure and are not aware of how they may be contributing to the problem. Even with public information sessions, pamphlets, online information, and newsletters, this challenge remains when engaging different communities.

## The Challenge

From recent trials with elementary school students, hands on experiences were found to be more effective at engaging and instilling understanding than traditional outreach methodologies. Therefore, **students are challenged to design and create experiential kits** (similarly to those offered by [KiwiCo](#)) that can be manufactured by the City to help educate the public on various stormwater topics. The kits should be professional, safe, cost-effective, and easily deployable.

Ideally, the kits should be suitable for a large range of age groups; however, it would be acceptable if it only targets grades three to eight. City staff may deploy kits at information workshops for large infrastructure projects to assist with understanding the value of stormwater projects, sent to schools for use in the classroom, or made available for loan in the library for the public. Simple and safe materials, reusability, and intuitive design are paramount. The City of London intends to create working prototypes and short runs using CNC machines, 3D printers, and laser cutters.

For the purpose of the competition, teams do not need to design external packaging (e.g. what box everything will come in). If they do design packaging, it will be excluded from overall cost metrics for comparison purposes.

In general, activities work best when the "lesson" is concise and specific. Some examples of "lessons" are as follows:

- How drainage works on different surface types
- How homes are designed for drainage
- How soil type impacts drainage
- How engineered river infrastructure (such as those in the Thames River) work (Dikes, Dams)
- Stormwater pond design features
- A stormwater pond's purpose (sediment and erosion control, nutrient removal)
- The concept of a "subwatershed"
- How City infrastructure reduces flooding
- Low impact development measures
- Climate change considerations

## Timeline

The competition will be facilitated virtually from **October 1 - November 30, 2022**. The time commitment is estimated to be 10-15 hours. It should be noted that the dates are given only as a guideline and may be adjusted.

## Important Dates

September 27, 2022	1:00 PM - 2:00 PM	Informational webinar
October 1, 2022	11:59 PM	Registration closes
October 15, 2022	1:00 PM – 3:00 PM	Mentorship workshop
October 22, 2022	1:00 PM – 2:00 PM	Skills development workshop
November 6, 2022	11:59 PM	Submission deadline
November 30, 2022	1:00 PM – 3:00 PM	Live demonstrations for top five

*\* All times are presented in Eastern Standard Time*

The teams who will be invited to pitch live on **November 30, 2022** will be notified by email by **November 20, 2022**. Teams who did not make it to the top five are allowed and encouraged to attend the live demonstration event.

## Resources

As part of the competition, an informational webinar will be hosted in partnership with the City of London on **September 27, 2022 from 1:00 PM – 2:00 PM EST**. The purpose of this webinar is to provide additional information about the lesson topics outlined above. Students are encouraged to attend the webinar live, but if they are unable to attend, a recording will be made available afterwards. The City of London has also provided a list of resources that students can review. These can be found on the Rain It In website: [www.rainitinsc.com/thecompetition/](http://www.rainitinsc.com/thecompetition/)

Rain It In will also host a virtual mentorship workshop on **October 15, 2022 from 1:00 PM – 3:00 PM EST** to help connect students with industry professionals who will provide mentorship on their project ideas and share information about different career opportunities. Rain It In will also host a virtual skills development workshop on **October 22, 2022 from 1:00 PM – 2:00 PM EST** to teach students the fundamentals of how to give an effective pitch.

In addition to the resources provided by the City of London and Rain It In, student teams are allowed and encouraged to do their own research and make their own connections with industry professionals as needed.

## Project Deliverables

- Short description from creators introducing submission and outlining: Name, Lesson/Message, Inspiration, Suitable Age Groups, What they Feel Makes the Experience Unique and Engaging
- A 5-minute demonstration video using prototype of kit (for demonstration only, physical asset is property of creators)
- List/inventory of reusable components and consumable components
- List/inventory of costs for all components (including vendors)
- Digital files of documentation (manuals, guides)

- Digital files of STL/Model/gcode of component parts
- Digital files of graphics used

All project deliverables should be submitted to the Google Drive for evaluation by **November 6, 2022 at 11:59 PM EST**. A unique link will be provided to each student team after registration closes to use for their submission. There is no file type requirement for the submission. Student teams are not expected to create a high production video and will not be evaluated on the technical aspects of their video submission. However, students should do their best to ensure that the audio and visual quality of their video is good. The demonstration video should be **no longer** than five minutes.

All deliverables should be released to the City of London under Creative Common's license CC BY-NC-SA 4.0 (<https://creativecommons.org/licenses/by-nc-sa/4.0/>) which permits the copy, adaptation, and redistribution of the material in any medium with attribution for non-monetary uses (only for non-profit uses). Original intellectual property rights remain with its creators.

## Team Registration

- Registration is open to registered full-time or part-time students at a college or university (undergraduate or graduate) in Canada
- There is no entry fee
- There are no travel requirements as all aspects of the competition will be hosted virtually
- Teams should consist of a **minimum of three (3) and a maximum of six (6) students**
- As climate change is a multi-sectoral problem, we recommend participants build diversified teams across various programs to gain different perspectives and skills useful for developing a successful solution to the challenge
- Students do not need to be attending the same educational institution to be on the same team
- We strongly encourage student teams to work with mentors from their institution's internal incubator or accelerator programs

## Judging and Evaluation

The judging panels will be comprised of individuals from a variety of backgrounds which could include municipal, academic, engineering, regulatory, conservation, communications, public education, and outreach. The number of judges and their affiliations will be shared throughout the competition.

There are two different judging panels who will evaluate the project submissions during the competition:

- The first panel of judges will evaluate all project submissions due on **November 6, 2022 at 11:59 PM EST** to identify the top five teams

- The second panel of judges will evaluate the live demonstrations presented by the top five teams on **November 30, 2022 from 1:00 PM – 3:00 PM EST.**

The scoring sheet on page 9 has been designed for the judges to use to evaluate the project submissions. The same evaluation criteria will be used by both panels of judges as the basis for judging all submissions.

## 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 team's total score. Penalties include the following:

- Failure to have a minimum of one team member attend the mentorship workshop may result in a **5-point penalty** being assigned to the team's total score
- Failure to have a minimum of one team member attend the skills development workshop may result in a **5-point penalty** being assigned to the team's total score
- Failure to submit a project pitch recording on time may result in a **2-point penalty per day, including weekends, up to a maximum of seven days**
- Teams who are invited to the final pitch event must be present at the beginning of the virtual competition and remain through to the completion of the event. Failure to do so may result in a **5-point penalty** being assigned to the team's final score

Teams will be notified of the penalties they have received. The above penalties may be modified by Rain It In. If this is the case, the teams will be notified of any changes.

## Disqualification

A participating team may be disqualified from Rain It In's Fall 2022 Student Competition, even if they have fully completed the challenge, if any of the following conditions apply:

- The team does not submit their project report by the set deadline
- Any member of the team is not a registered full-time or part-time student at a college or university in Canada
- A non-student, such as a working professional, completes or provides significant input into the design or creation of the prototype
- 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 Rain It In and/or the project sponsor, is regarded as unethical or disgraceful

Disqualification will prevent a team from winning Rain It In's Fall 2022 Student Competition.

## Awards

Awards will be presented to the winning teams participating in Rain It In's Fall 2022 Student Competition based on the evaluation criteria below. The awards are subject to change at the discretion of Rain It In:

### First Place

- A seed grant worth \$5,000.00
- A cash prize worth \$500.00
- Recognition in at least one industry publication as well as on Rain It In's website and social media channels
- An award recognition certificate for each team member

### Second Place

- A cash prize worth \$300.00
- Recognition in at least one industry publication as well as on Rain It In's website and social media channels
- An award recognition certificate for each team member

### Third Place

- A cash prize worth \$200.00
- Recognition in at least one industry publication as well as on Rain It In's website and social media channels
- An award recognition certificate for each team member

The team who is awarded the seed grant will receive ongoing support from Rain It In and its network to further develop and commercialize their prototype. In order to receive the funding, the team will be required to provide Rain It In with regular updates, a timeline, a budget and receipts for expenses.

All students who complete the challenge in full will receive a participation certificate.

## Expense Reimbursement

Rain It In will reimburse up to **\$100.00 per eligible team** (up to a maximum of 40 teams) for costs associated with the creation of a prototype. To be eligible for reimbursement, teams must:

1. Have registered their team by the registration deadline of **October 1, 2022 at 11:59 PM EST**;
2. Had at least one (1) team member attend the mentorship workshop and the skills development workshop. It does not need to be the same team member who attends each event;



3. Completed the project in full;
4. Submitted a complete prototype; and
5. Provided copies of all receipts associated with the creation of their prototype

Student teams who do not meet the eligibility requirements will not be reimbursed. Student teams who withdraw or are disqualified from the competition are not eligible for reimbursement. If more than 40 teams are eligible for reimbursement, reimbursement will be given based on the order of registration, which will be provided in the registration confirmation email.



## Evaluation Criteria

	Poor	Fair	Good	Very Good	Excellent
Appropriateness of lesson	1	2	3	4	5
Valid age groups (versatility of design)	1	2	3	4	5
Effectiveness of approach in engaging users	1	2	3	4	5
Effectiveness of approach in improving understanding	1	2	3	4	5
How fun it is	1	2	3	4	5
Ease of set up	1	2	3	4	5
Ease of clean up	1	2	3	4	5
Ease of use	1	2	3	4	5
Cost	1	2	3	4	5
Quality of component design	1	2	3	4	5
Ease of replacing parts (maintenance)	1	2	3	4	5
Safety of design and components	1	2	3	4	5

**Total Score      /60**

**Notes:**

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