



Programming Guidebook



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1. Competition Introduction

The purpose of this guidebook is to provide competitors with a brief overview of their respective competition prior to the weekend of CEC. It is important that the competitors thoroughly review the CEC 2021 Online Rulebook found on cec.cfes.ca for all rules and regulations of their competition.

The programming competition will focus on the theme of promoting New Brunswick's renewable energy sources over traditional sources of energy, while still meeting the demands of the customers.

2. Procedure/Timeline

Presentation of Problem: The Programming problem will be introduced and explained by the competition directors in the briefing session. A detailed explanation of what is expected from competitors will be given both orally and in writing.

Question Period: Competitors will have 15 minutes to ask the competition directors any questions after the problem is presented.

Solution Development: Teams will have 8 hours to develop their solution, produce all the required deliverables, and prepare their presentation for the judges. During the design period, the remaining time will be announced at three (3) hours, one (1) hour, thirty (30) minutes, and ten (10) minutes before the end of the allotted time. Deliverables must be submitted before the end of the allotted time. Competitors may pose questions to the directors; these questions as well as the respective answers will be sent in writing to each competing team, translated in both languages.

Solution Presentations: Competitors will have a maximum of twenty (20) minutes to present their solutions and all team members must be present and participate. Only material that has been submitted to the



competition directors during the solution development phase may be used during the presentation. Judges will have ten (10) minutes to pose questions afterward.

3. Timekeeping Rules

During the design phase, time is started when the teams leave the competition briefing. The remaining time will be announced three (3) hours, one (1) hour, thirty (30 minutes) and ten (10) minutes before the end of the allotted time.

During the presentation, time is halted when a judge asks a question, and the time is halted when a team member answers a question asked by a judge. The remaining time must be indicated to the competitors ten (10) minutes, five (5) minutes and 1 minute before the end of the allotted time for the presentation to the judges. A visual countdown and reminders via Zoom chat will be provided. A visual countdown must be given during the last thirty (30) seconds of the presentation to the judges.

4. Presentation Order

Presentation order shall be determined randomly and shall be announced thirty (30) minutes before the presentations commence. All teams are required to be present at this announcement. Teams are not allowed to switch places in the presentation order.

Teams may not be in the audience for presentations of their competition until after they have completed their presentation. Any attempts at entering the presentation room before their allotted time will result in a warning for a first offense, and a ten (10) point penalty for any further offenses.



5. Working Platform

For the code, the GitHub repository sent to your team should be used to host your team's code. You are allowed to use this repository to make branches off of Main and allow you to push and pull them to Main at your discretion. **You cannot make any branch rules** so be careful when pushing to the Main branch, as you may delete some work that you need.

You and your team can pull the code off GitHub and work on it remotely without pushing and pulling. However, all submissions will be done through GitHub.

If you are unfamiliar with GitHub, please see the GitHub Introduction document that was sent with this Guidebook. This will provide a basis for accessing the repository and applying changes that have been made.

Only the files merged into the Main branch will be considered for submissions, this must include your presentation. GitHub timestamps the updates to branches so late submissions will be noticed.

6. Deliverables

Electronic Presentation: Each team is required to submit electronically via GitHub, a presentation about their proposed solution before the end of the solution development phase. This presentation will be the material that must be used during the solution presentation phase. The requirements of the presentation will be outlined in the problem design package.

Final copy of the code: The code is to be submitted via GitHub and must have one driver class for the system (codename_programmingDriver.py for example). Other filenames can be decided by team members. The final copy must also include the produced output files.

If the files fail to be successfully submitted via GitHub, contact your director immediately alerting them of the problem.



7. School Anonymity

School anonymity rules solely apply during presentations of each competition. Delegates can disclose their respective school and wear apparel at any other point during the conference. This includes but is not limited to; design period or competition preparation periods, social events, opening ceremonies and closing banquet.

No information in a team's presentation may refer to the team's identity or respective school. If the identity of a team is revealed to the judges at any time through the competitors' presentation, each offense will result in a ten (10)-point penalization and -10% of total points for debate.

Presenters and debaters are also forbidden from wearing any apparel bearing the name, crest, colors, or other identifying symbols of their respective schools. Failure to follow this rule will result in a fifty (50)-point penalization, or 50%-point reduction in the case of debate.

When submitting deliverable files (such as presentations or reports), the file content and filename must not disclose the name of the team's school. If the identity of a team is disclosed in the presentation slides or filename, the presenting team will be penalized with a loss of ten (10) points. Instead, each team shall name its files using the team name assigned to the team and the case subject as below:

Correct: codename_programming.ppt

Incorrect: manitoba_engineering.ppt

8. Online Delivery Format

All presentations are to be completed live, unless communicated to the competition director(s) that there are problems with the online platform. The competition director(s) of that specific competition, alongside the VP



Competitions will deem whether to accept the request. If the request is accepted, an alternative presentation format will be arranged.

9. Judging Metrics

Programming Judging Matrix		
Strategy/Algorithm	Simplicity	/10
	Ingenuity	/10
	Ability to Achieve Desired Outcome	/15
		/35
Code	Structure	/10
	Consistency	/5
	Readability	/10
	Efficiency	/10
		/35
Resource Management	Memory Usage Efficiency	/5
	Program's CPU Usage	/5
		/10
Presentation	Design Process and Justification	/7
	Design Critique	/4
	Voice, Articulation and Timing	/4
	Visual Aids	/2
	Response to Questions	/3
		/20
Deduction Total		
Total		/100



Point Penalties	
Plagiarism	Elimination
Insufficient Citation	-50
Documents Received After Deadline	-50
Absent Team Member	-25
Verbal Disclosure of School During Presentation	-10
Disclosure of School in Presentation Files/Documents	-10
Wearing School Apparel During Presentation	-50
Entering presentation room before allotted time (after first offense)	-10
Total	