

ROTC 2021 – Scoring Methodology

Overview

The scoring and ranking methodology is designed to translate absolute performance into relative performance by the use of a ranking system. This ranking system is designed to discourage traders from betting “the house” in one heat and generating very large absolute profits that will result in a clear win of the entire competition. Instead, traders’ absolute performance in each case is converted into a series of ordinal ranks which are subsequently converted into a final case ranking. These case rankings are mapped to case scores and then combined under the following weights:

Sales & Trader Case	Algorithmic Trading Case
50%	50%

The scoring system is not intended to be extremely complex. However, throughout the trading competition there will be over 500 separate trading results. These results must then be averaged and ranked over several iterations to compute a final ranking and score. This document describes that process.

The purpose of the system is to reward consistently high performance (i.e. a team that places 8th and 5th will have a higher final score than a team that places 1st and 35th).

Scoring Mechanism

For each heat, the **final liquidated portfolio values¹ of all team members (that is, the profits/losses of all team members)** are combined to form a dollar value of the team portfolio. The teams are then ranked for each heat by the dollar values of the team portfolio with 1st given to the team with the highest dollar value. In the event of a tie, the teams that have tied will be given the same rank. The teams below the tie will be given a rank based on the number of teams that have scored better than them. Therefore, if three teams tied for 2nd place, the ranking would be 1st, 2nd, 2nd, 2nd, and 5th.

Based on the above, each team will receive a rank for every heat. A team’s heat ranks are then averaged. Teams are then ranked based on their average heat rank to determine their overall heat rank. The team with the lowest average will be ranked first.

¹ P&L from each team member will be used for [the](#) Algorithmic Trading Case. For the Sales and Trader Case, “Adjusted P&L” will be used as explained in the [Case Package](#).

This case ranking is then mapped to a point score where the lowest rank (best score) is given a score of $n+1$, where n is the number of teams below you plus the teams that tied with you (i.e. the first place team out of 28 teams will get a score of 28, the last place team will get a score of 1). If you are tied for 2nd place with 2 other teams, you will get a score of 27.

Final Score

The final case scores are then multiplied by their case-weights to form a final weighted score. This final weighted score is used to rank teams, where the highest score is the best score. In the case of two or more teams having the same final weighted score, those teams will be ranked based on the variance of their final case scores. The team with the lowest variance will be ranked ahead of the others. For example, if the top 3 teams have the following scores:

Team	Final Case Scores		Final Weighted Score
	Sales & Trader	Algorithmic Trading	
Team 1	28	27	27.5
Team 2	26	24	25
Team 3	27	23	25

Team 1 will be ranked first as it has the highest weighted score. Team 2 and Team 3 have the same final weighted score and will be ranked based on the variance of their case scores. The variance for Team 2 is 1 while the variance for Team 3 is 4, therefore Team 2 will be ranked second while Team 3 will be ranked third.

Team	Final Rank
Team 1	1
Team 2	2
Team 3	3

Two (or more) teams that have the same score and the same variance will tie. In the event of a tie, the teams that have tied will be given the same rank. The teams below the tie will be given a rank based on the number of teams that have scored better than them. Therefore, if three teams tied for 2nd place, the ranking would be 1st, 2nd, 2nd, 2nd, and 5th.