

Varsity Team IMC Squad Organisations
<https://parleyyang.github.io/CUPOKS/index.html>

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1 Motivation of this document

The general scoring arrangement (<https://parleyyang.github.io/CUPOKS/assets/scoring.pdf>) was published on the 2nd January 2024 to facilitate the selection of CUPOKS IMC representatives. Since then, we have had considerable discussions in the society, especially amongst the management, in terms of how the IMC delegations shall prepare themselves in the weeks towards IMC competition.

We then had an encouraging performance being made by our Varsity Team in the Oxbridge Competition on the 19th January, which further motivates a team-community style of training in preparation towards future competition.

We hence believe a wider team selection is necessary for participations and trainings towards the final goal of top performance.

2 Varsity Team Re-organisation

The Varsity Team which was formed in November 2023 shall be re-named as Varsity Team Oxbridge Squad. The squad competed with Oxford on the 19th January 2024, and shall be considered for further competitions this year if the needs arise.

The management of the Varsity Team shall remain their position until further changes.

The Varsity Team IMC Squad shall be formed on the 7th February 2024 to facilitate the trainings and selections towards IMC Competition on the 23rd March 2024.

3 Selection Process towards Varsity Team IMC Squad

The Varsity Team IMC Squad shall be formed of 8 members. The 8 members shall pursue another 4 tournaments (details TBC as we are awaiting the final details from IMC to design the tournament structures) to select the top 4 who shall be present on the 23rd March competition, and their ranked substitutes.

An application form shall be made available soon, with the application deadline set as 9am of 7th February. The following criteria shall be applied:

- For candidates who scored top 4 in the cumulative scores, they shall be automatically admitted.
- For candidates who do not belong to the above category, a pooled selection shall be made to select the top 4 candidates. The selection process shall be done by a congregation of the selection committee at 4pm on the 7th February.

The selection committee shall be formed of:

- Top 2 holders of the cumulative scores
- Captain of the Varsity Team
- Vice Captain of the Varsity Team

4 Selection Process from Varsity Team IMC Squad to Final Rankings

Scoring function for the 4-th to the 7-th sessions (s_4, \dots, s_7) takes the form of

$$s_i = \left\lfloor 10 \times \left(\log \left(\frac{20}{x_i} \right) + 0.9^{\mathbb{1}(r_i=2)} \times \log \left(\frac{8 + tr_i}{x_i} \right) \right) \right\rfloor \quad (1)$$

with x_i denoting the rank of the i -th game, tr_i denoting the total rebuys in the game, r_i denoting the individual rebuy (capped at 2) in the game, and wherein \log refers to natural logarithm and $\lfloor \cdot \rfloor$ is the floor function, i.e. $\lfloor x \rfloor = \max\{y \in \mathbb{Z} : y \leq x\}$. $\mathbb{1}(r_i = 2)$ takes the value 1 if $r_i = 2$ and 0 otherwise. That is, if the candidate rebuy for twice, the 0.9 would be multiplied, otherwise not. If the candidate did not participate one or two of the games, the score is set as zero.

The total score is then just a sum of the four scores and the previous 3 scores, i.e. $\sum_{i=1}^7 s_i$

There will be a scoreboard of all candidates proceeding the end of each tournament.

The top 4 of the cumulative scores at last shall be selected for participation towards the IMC competition, with the bottom 4 being ranked substitutes.

If there is a tie-up for last (one or more) places, an additional competition would be held for those who tied-up to determine the rankings.