

Student-elected Trustee Spring 2006 Voting Results – March 17, 2006

What do these numbers mean?

This election was conducted using the Hare-Clarke system, in which a voter ranks their choices on a ballot (see *next page*). Reviewing the results of this election shows the following:

- A total of 3047 votes could be counted in this election.
- In the initial count, Mao Ye had a plurality (886), with Rudnick (825), Taylor (840) and Kurczewski (496) following.
- Inasmuch as not everyone who expressed a first preference also expressed a second or third preference, when Rudnick and Taylor were disqualified, 442 ballots were exhausted, leaving 2605 ballots at the final stage.
- At the final stage, Ye had a majority, 1389 votes to Kurczewski's 1216.
- Voters should be aware of the importance of expressing their second and third choices so that their full range of preferences can be taken into account, which is what voting by the Hare system is meant to do. In this election, if voters had completed the 442 ballots that were "exhausted," the outcome of the election might well have been different.

| |
|--------------------------------------|
| Student Elected Trustee - 1 to elect |
| The following candidate was elected: |
| Mao Ye |

| Count Summary | | |
|-------------------------------------|----------------------------|------|
| Disauthorized Voted Ballots | 0 | |
| Authorized Voted Ballots | Total | 4068 |
| | Empty | 1006 |
| | Will be counted | 3047 |
| | Won't be counted | 15 |
| Number of Candidates | 4 | |
| Number to Elect | 1 | |
| Candidates Withdrawn | Joe Rudnick, Ray Taylor | |
| Votes Exhausted During Withdrawals | 442 | |
| Formal Votes Left After Withdrawals | 2605 | |
| Counting Rules | PR: Hare-Clarke | |
| Formality Rules | PR: Hare-Clarke | |

| Candidate | | Mao Ye | Joe Rudnick | Dave Kurczewski | Ray Taylor | Result | Votes Redistributed | Remainder this Stage | Total Remainders | Votes Exhausted this Stage | Total Votes Exhausted |
|-----------|-------------------------|---------------------|--------------------|---------------------|---------------------|----------------------------------|---------------------|----------------------|------------------|----------------------------|-----------------------|
| Stage 1 | Stage: Total: | 886.000 886.000 | 825.000 825.000 | 496.000 496.000 | 840.000 840.000 | <i>Joe Rudnick was withdrawn</i> | 825.000 | 708.000 | 708.000 | 117.000 | 117.000 |
| Stage 2 | Stage: Total: | 182.000 1068.000 | <i>withdrawn</i> | 246.000 742.000 | 280.000 1120.000 | <i>Ray Taylor was withdrawn</i> | 1120.000 | 795.000 | 1503.000 | 325.000 | 442.000 |
| Stage 3 | Stage: Total: | 321.000 1389.000 | <i>withdrawn</i> | 474.000 1216.000 | <i>withdrawn</i> | Mao Ye was elected | 0.000 | 0.000 | 1503.000 | 0.000 | 442.000 |

How votes are counted under the Hare-Clarke system of counting:

Hare-Clarke is a variation of preferential counting called proportional preferential. In order to be elected a candidate needs to achieve a set quota of votes. The quota is calculated after all the first preference votes have been counted, and is calculated using the following formula: $Q = V / (P + 1)$. The following example illustrates how this is done:

The formula is:

total number of valid votes / (number of positions +1).

500 valid votes are received for 12 seats.

$500 / (13 + 1) = 39.4615$

Quota = 39.46

Any candidate with votes greater than the quota are automatically elected. If all seats are filled at this point then the election is completed and declared. However if not all seats are filled then the following steps will occur:

- If the successful candidate(s) has more than the quota, the last package of votes that they received will be redistributed based on the preferences indicated on the ballot paper. The votes will be assigned a transfer value such that the total value of the votes redistributed is equal to their surplus. Once this has been done results will again be checked to see if the required number of candidates have been elected. The transfer value is calculated as $T = (V - Q) / V2$. V is the number of votes the candidate has and Q is the quota. V2 is the number of votes in the last package that they received.

- If the successful candidate(s) do not have a surplus of votes then a currently unelected candidate with the lowest number of votes will be excluded and their votes redistributed using preferences. This process is repeated until all candidates are elected or until the number of remaining candidates is equal to the candidates required, in which case they are declared elected.

Cleaning (ballot formality)

Vote cleaning refers to the process by which votes are deemed informal or formal and thus included in or excluded from the final count. Different cleaning models specify different rules. Some vote cleaning models can only be used with certain vote counting models.

The Hare-Clarke type of cleaning formality was used in the Cornell Spring 2005 Student Trustee Election:

Hare-Clarke

Hare-Clarke requires voters to fill in at least as many preferences as there are positions to elect. For example, when there are four candidates running for two seats a formal vote must number at least 1, 2 (in consecutive sequence). If the voter only selects 1 candidate the vote will not be counted.