REPORT OF THE
NCAA MEN'S AND WOMEN'S FENCING COMMITTEE
SEPTEMBER 18, 2025, MEETING

***ACTION ITEMS*.**

1. **Legislative items.**

   - **None.**

2. **Nonlegislative items.**

   - **Adjustment to the regional allocation formula.**

     a. Recommendation. Change the regional allocation formula to allocate bids per region based more off current year success and strength rather than results from past seasons. (See the Attachment.)

     b. Effective date. 2025-26 season.

     c. Rationale. The current formula, along with all past regional allocation formulas, uses results from past NCAA championships, along with the size of the region, to determine the number of bids allocated to each region. The committee believes that an allocation formula that relies more on current season results in measuring the strength of a region better serves the sport of fencing. The new formula would still use past results at NCAA championships as one variable, but all other variables would be based on current year performance, including performance at regionals. The current year variables would heavily rely on the Season Performance Index (SPI) which is the metric used to measure a student-athlete's performance throughout the season. These new variables would include both data from regular-season performance by fencers in the region, measured through SPI, as well as data from only those fencers who fence in each of the four regionals. The committee felt it was important to limit the regional based variables to only those student-athletes who fence at regionals to best measure the strength of each regional field. Because results from regionals factor into the proposed formula, allocations would not be determined until after regionals as opposed to the current process of announcing allocations at the beginning of the season. While this is a significant shift, the committee believes that this change is an acceptable necessity to ensure the implementation of a formula based more heavily on current year performance. The committee also plans to work on releasing a mid-year update of allocations to give the membership a general idea of where allocations stand at that moment in time. The committee, along with coaches from the membership and members of the United States Fencing Coaches Association Collegiate Committee, investigated and tested a number of different iterations of the proposed formula and believe that final proposal creates the most balanced and fairest application of a current year-based allocation formula.

     d. Estimated budget impact. None.

     e. Student-athlete impact. The number of allocated spots per region would be most

influenced by a student-athlete's performance during the season and at regionals, rather than past NCAA championship performances that include results from some student-athletes no longer competing in collegiate fencing.

Committee Chair: *Kelsie Gory Harkey, Cleveland State University, Horizon League.*
Staff Liaison(s): *Zach Christopher, Championships and Alliances.*

NCAA Men's and Women's Fencing Committee September 18, 2025, Meeting
Attendees:
Katarzyna Dabrowa, United States Air Force Academy.
Nick Fellers, University of California, San Diego.
Bruce Gillman, Vassar College.
Kelsie Gory Harkey, Cleveland State University.
Peter Grandbois, Denison University.
Elinor Hurt, Duke University.
David Sierra, Wagner College.
Absentees:
David Sach, Wheaton College (Massachusetts).
Guests in Attendance:
None.
NCAA Staff Liaison in Attendance:
Zach Christopher, Championships and Alliances.
Other NCAA Staff Members in Attendance:
Ryan Rea, Championships and Alliances.

NCAA ALLOCATIONS FORMULA

Proposal and Methodology

A New Formula - Metrics

Metrics fell into one of three categories:

1. Past NCAA Championships Results
2. Current Season’s Regional Qualifier Field
3. Current Season’s Results

A New Formula - Metrics

Past NCAA Championships Results	Current Season's Regional Qualifier Field	Current Season's Results
• Placement Score (Current) • Placement Score (All Places) • Bout Win %	• Field Avg SPI • Field Median SPI • Top N% Avg SPI • Bubble Index N%	• Avg SPI • Median SPI • Standard Deviation SPI • Top N Avg SPI • Top N Median SPI • Top N Standard Deviation SPI • SPI Rank Spread • % of athletes in top N • Regional % of SPI above N

A New Formula - Priority Metrics NCAA Championships

Past NCAA Championships Results	Current Season's Regional Qualifier Field	Current Season's Results
• Placement Score (Current) • Placement Score (All Places) • Bout Win %	• Field Avg SPI • Field Median SPI • Top N% Avg SPI • Bubble Index N%	• Avg SPI • Median SPI • Standard Deviation SPI • Top N Avg SPI • Top N Median SPI • Top N Standard Deviation SPI • SPI Rank Spread • % of athletes in top N • Regional % of SPI above N

A New Formula - Priority Metrics

NCAA Championships	Regional Qualifiers	Season Results
• Placement Score (Current) • Placement Score (All Places) • Bout Win %	• Field Avg SPI • Field Median SPI • Top 30% Avg SPI • Bubble Index 20%	• Avg SPI • Median SPI • Standard Deviation SPI • Top N Avg SPI • Top N Median SPI • Top N Standard Deviation SPI • SPI Rank Spread • % of athletes in top N • Regional % of SPI above N

A New Formula - Priority Metrics

NCAA Championships	Regional Qualifiers	Season Results
• Placement Score (Current) • Placement Score (All Places) • Bout Win %	• Field Avg SPI • Field Median SPI • Top 30% Avg SPI • Bubble Index 20%	• Avg SPI • Median SPI • Standard Deviation SPI • Top 25 Avg SPI • Top 25 Median SPI • Top N Standard Deviation SPI • SPI Rank Spread • % of athletes in top 50 • Regional % of SPI above 70

A New Formula - Structure

The structure of the formulas that were tested was:

$$\alpha Metric(1)+\beta Metric(2)+\zeta Metric(3)+\kappa Metric(4)+\epsilon Metric(5)+\theta Metric(6) = StrengthAllocation$$

Where each Metric was calculated using a normalized Z score and:

$$\alpha + \beta + \zeta + \kappa + \epsilon + \theta = 1$$

A New Formula - Example

W_1 x Placement Score (Current) + W_2 x Top 30% Avg SPI +

W_3 x Bubble Index 20% + W_4 x Top 25% Avg SPI +

W_5 x % of athletes in top 50 + W_6 x Regional % of SPI above 70 =

Strength Allocation Value

A New Formula - What was investigated

The following combinations of metrics were investigated:

1. NCAA Placement (Current), Top N% Avg SPI Regional, Bubble Index, Avg N SPI Season, Top 50 %, % SPI above N Season
2. NCAA Placement (Current), Top N% Avg SPI Regional, Bubble Index, Median N SPI Season, Top 50 %, % SPI above N Season
3. NCAA Placement (All Places), Top N% Avg SPI Regional, Bubble Index, Avg N SPI Season, Top 50 %, % SPI above N Season
4. NCAA Placement (All Places), Top N% Avg SPI Regional, Bubble Index, Median N SPI Season, Top 50 %, % SPI above N Season
5. NCAA Bout Win %, Top N% Avg SPI Regional, Bubble Index, Avg N SPI Season, Top 50 %, % SPI above N Season
6. NCAA Bout Win %, Top N% Avg SPI Regional, Bubble Index, Median N SPI Season, Top 50 %, % SPI above N Season

The above metric combinations were investigated with a 20%/20% Regional Avg SPI and Bubble Index and a 30%/20% Regional Avg SPI and Bubble Index

A New Formula - Optimization

Each of the formula combinations from the previous slide were put into an optimizing program to calculate what weights would best approach the provided target. The constraints on the weights were:

- No weight could be less than 5%
- NCAA Championships must be at least 20%
- No individual weight could exceed 35% other than NCAA championships.
- NCAA Championships weight ceiling was 50%
- All weights must add to 100%

A New Formula - Optimization

After investigating each combination, the metric/weight combination that approached the target most consistently was the following:

20% x NCAA(Current) + 13% x Avg SPI (Top 25%) + 22% x Region % Top 50 +

5% x Avg SPI (Top 30% at Regionals) + 5% x Bubble Index (Next 20% Reg) +

35% x Region % above 70 SPI = Strength Allocation