

GenBio-MAPS

Program Summary

Overview: GenBio-MAPS measures student understanding of the *Vision and Change* core concepts across an undergraduate biology program. The instrument consists of 39 multiple-true-false question stems with 4–5 T/F items for each stem. Every item tests a core concept within a subdisciplinary context. Each student answers 15 randomly selected question stems.

Institution sample

Time	n
ADV	56
BEG	729
MID	620

National sample

Time	n
BEG	2425
MID	1832
ADV	918

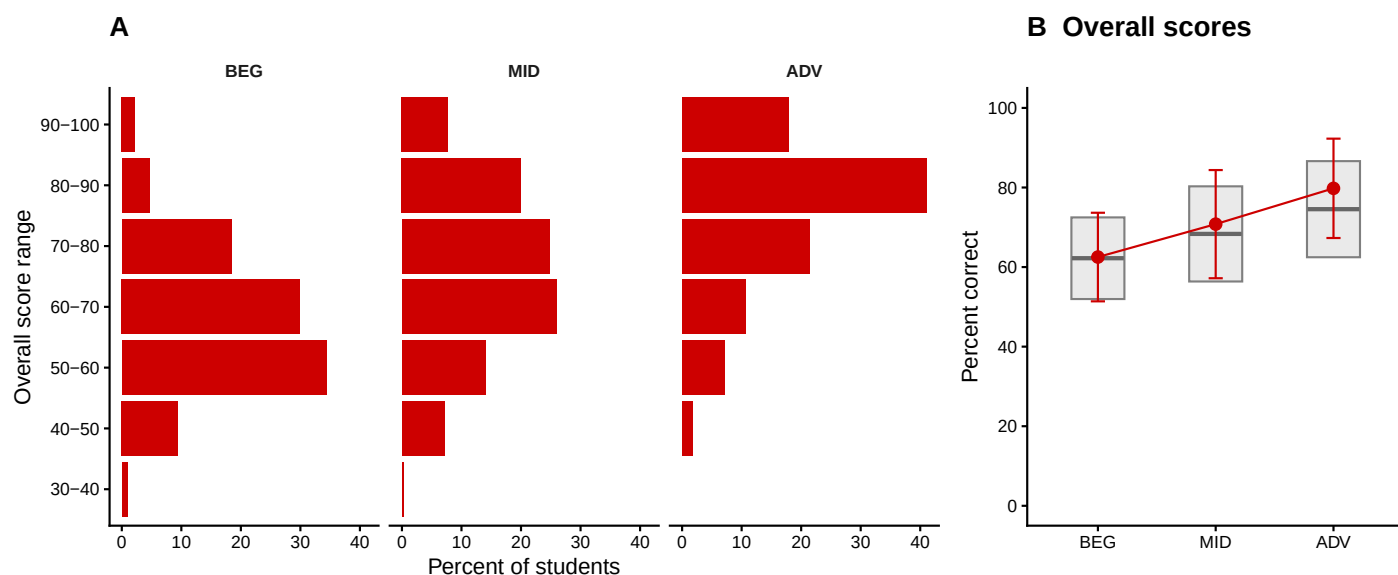


Figure 1: (A) Histogram showing local student overall score distributions at each time point. (B) Overall student performance compared with the national average. Red points and thin error bars represent local means $\pm$ SD. Gray boxes represent national means $\pm$ SD, with horizontal lines indicating national means.

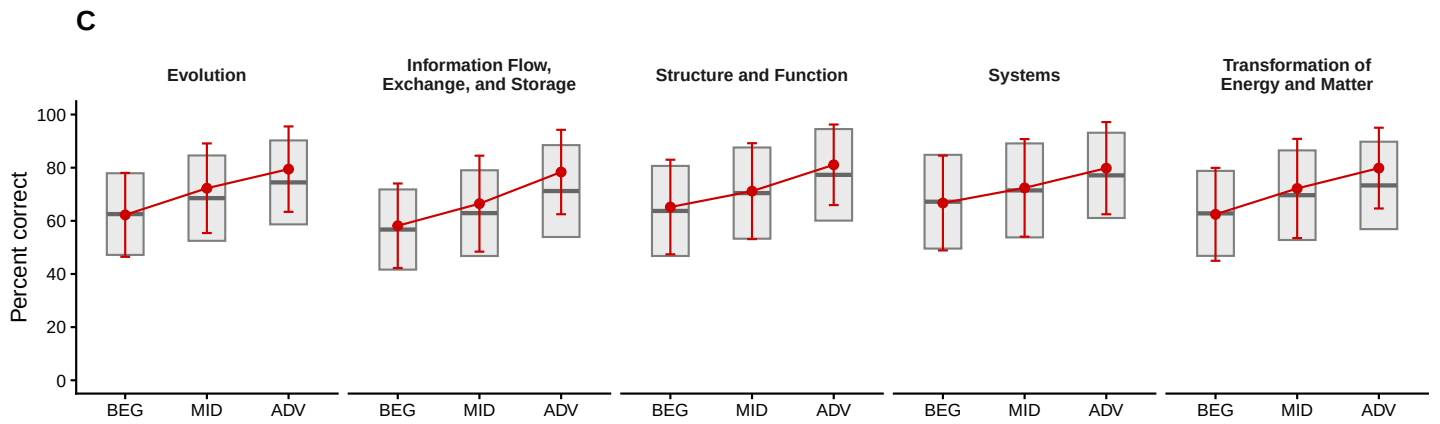


Figure 2: (C) Core concept scores at each time point. Red points and thin error bars represent local means $\pm$ SD. Gray boxes represent national means $\pm$ SD, with horizontal lines indicating national means.

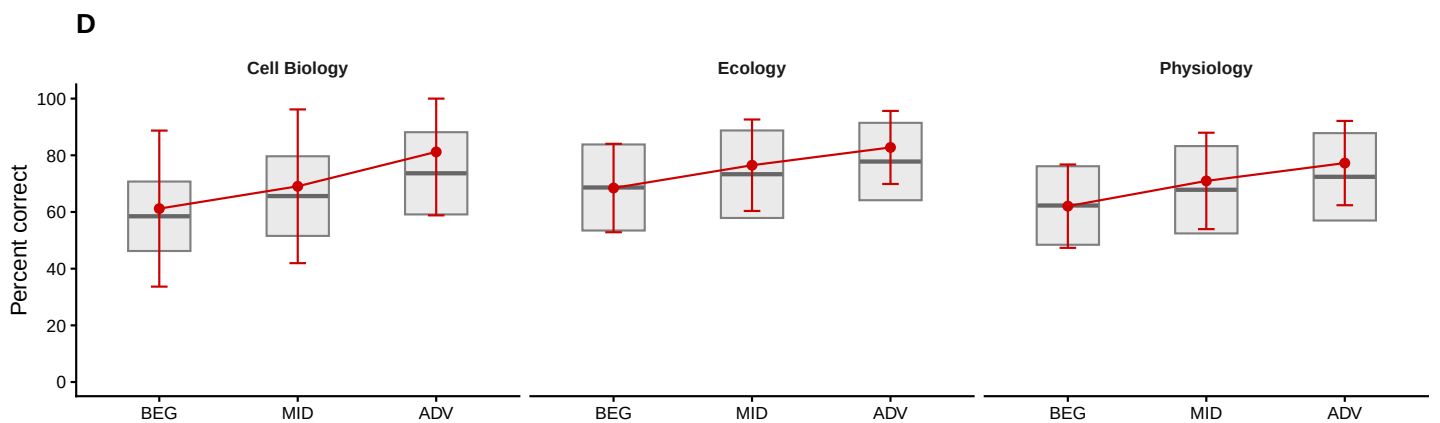


Figure 3: (D) Subdiscipline scores at each time point. Red points and thin error bars represent local means $\pm$ SD. Gray boxes represent national means $\pm$ SD, with horizontal lines indicating national means.

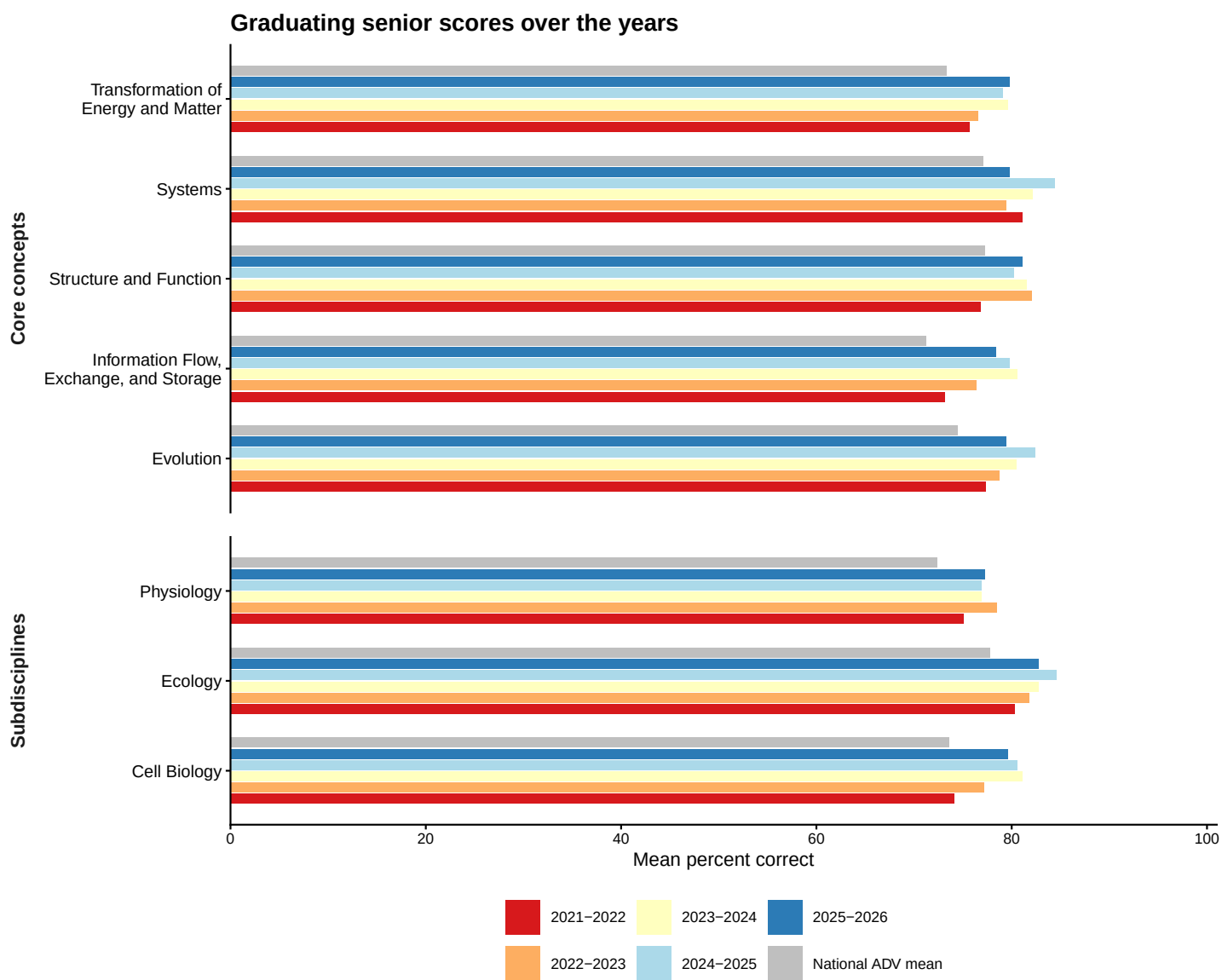


Figure 4: Mean core concept and subdiscipline scores for graduating seniors by academic year. Bars represent institutional ADV means. Diamonds represent national ADV means.