

Biomedical Debate



New for 2023 - 2024

Clarification about event timing has been added.

These guidelines are written for ILC. States may modify events or have different event processes and deadlines. Be sure to check with your Local/State Advisor (or state website) to determine how the event is implemented for the regional/area or state conference.

Editorial updates have been made.

Event Summary

Biomedical Debate provides members with the opportunity to use debate as a platform for researching the pros and cons of a biomedical issue and showcasing what has been learned. This competitive event consists of 2 rounds and each team consists of 3-4 people. Team members will participate in the Round One written test containing questions about the annual biomedical topic. The teams with the highest average score from the test will qualify for the Round Two debate(s). This event aims to inspire members to be proactive future health professionals by researching a given health topic, evaluating, discussing, and thinking critically about the issue, and refining verbal communication skills surrounding a complex biomedical issue.

Dress Code

Competitors shall wear the HOSA uniform or proper business attire. Bonus points will be awarded for [proper dress](#). All team members must be properly dressed to receive bonus points.

Competitors Must Provide

- ☐ [Photo ID](#)
- ☐ Paper or index cards, to use for note taking by team members (optional)
- ☐ #2 lead pencils (NOT mechanical) with eraser for both rounds
- ☐ Prepared topic materials (per rule #15) for the presentation round in hard copy only

General Rules

1. Competitors in this event must be active members of in good standing.
2. Eligible Divisions: Secondary and Postsecondary / Collegiate divisions are eligible to compete in this event.
3. Competitors must be familiar with and adhere to the "[General Rules and Regulations of the HOSA Competitive Events Program \(GRR\)](#)."
 - A. Per the [GRRs](#) and [Appendix H](#), HOSA members may request accommodation in any competitive event. To learn the definition of an accommodation, please read [Appendix H](#). To request accommodation for the International Leadership Conference, [submit the request form here](#) by May 15 at midnight EST.

- B. To request accommodation for any regional/area or state level conferences, submit the request form [here](#) by your state published deadline. Accommodations must first be done at state in order to be considered for ILC.
4. All competitors shall report to the site of the event at the time designated for each round of competition. At ILC, competitor's [photo ID](#) must be presented prior to ALL competition rounds.
5. The annual debate topic will be selected each year and will be announced in HOSA publications.

2023 – 2024 Topic: Should Artificial Intelligence in Healthcare be Welcomed or Feared?

Official References

6. Competitors are encouraged to learn as much as they can about the annual topic. All test questions will be developed from the following references:
 - A. Gunatilleke, N.J. (2022). [Artificial intelligence in healthcare; Unlocking its potential](#). Janak Gunatilleke. (*Note this is a printed book).
 - B. Jain, A., Pathak, A. (2023). [Artificial intelligence and its transformative impact on healthcare](#). Aakash Jain. (*Note this is a printed book).
 - C. Tyson, A., Giancarlo, P., Spencer, A. and Funk, C. (2023, February 22). *60% of Americans would be uncomfortable with provider relying on AI in their own health care*. Pew Research. <https://www.pewresearch.org/science/2023/02/22/60-of-americans-would-be-uncomfortable-with-provider-relying-on-ai-in-their-own-health-care/>.
 - D. Horowitz, B. (2022, December 16). *The current state of AI in healthcare and where it's going in 2023*. Health Tech. <https://healthtechmagazine.net/article/2022/12/ai-healthcare-2023-ml-nlp-more-perfcon>.
 - E. Kahn, B., Fatima, H., Qureshi, A., Kumar, S., Hanan, A., Hussain, J. Abdullah, S. (2023, February). *Drawback of artificial intelligence and their potential solutions in the healthcare sector*. National Library of Medicine. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9908503/>
 - F. Health IT Analytics.com. (2022, March 02). *Arguing the pros and cons of artificial intelligence in healthcare*. Health IT Analytics. <https://healthitanalytics.com/news/arguing-the-pros-and-cons-of-artificial-intelligence-in-healthcare>

ROUND ONE: The Test

7. [Round One Test Instructions](#): Each team will be evaluated in Round One by a fifty (50) item multiple choice written test. Competitors will be given sixty (60) minutes to complete the test.
8. **TIME REMAINING ANNOUNCEMENTS**: There will be NO verbal announcements for time remaining during ILC testing. All ILC testing will be completed in the Testing Center and competitors are responsible for monitoring their own time.
9. The team test score average from Round One will be used to qualify the team for Round Two.
10. **Sample Round One Questions**
 1. Dr. Kiruba Nagaratnam attributes the successful implementation of the e-Stroke solution by Brainomix in their hospital to the: Nagaratnam pp 48
 - A. intelligent and caring staff.
 - B. relationship and partnership with Brainomix.**
 - C. ease of access to AI educational conferences.
 - D. hospital administration encouragement and support.

2. What makes it difficult for clinicians to understand and trust AI within the field of neuroscience? Jain & Pathak pp 130
 - A. AI reliance on Brain-Computer Interfaces (BCI)
 - B. Bias in data used to form algorithms
 - C. Intense streamlining of neuroimaging data
 - D. **Lack of transparency in the conclusions reached by AI**

3. In the study by Jordan Richardson, et al, which accessed a patient's apprehension about the use of AI in healthcare, what was the main occupation of the participants?

<https://www.nature.com/articles/s41746-021-00509-1>

 - A. Technology
 - B. Education
 - C. **Healthcare**
 - D. Business

ROUND TWO – DEBATE ROUND

11. Beginning with Round Two, two (2) teams compete against each other.

12. The number of teams selected for Round Two is determined by the number of entries and overall conference capacity. Usually 32 secondary and 8 postsecondary/collegiate teams seeded for Round Two at ILC.
 - A. Debate pairings will be posted at a designated time and place.
 - B. Round Two requires a paired match-up. If a team is more than 5 minutes late to their Round Two appointed time, the team forfeits their right to compete in accordance with the [GRRs](#).

13. If using the 8 team bracket, the 9th and 10th ranked teams shall be the alternate teams. If using a 16 team bracket, the 17th and 18th ranked teams shall be the two alternate teams. If using a 32 team bracket, the 33rd and 34th ranked teams shall be the two alternate teams.

14. ALL teams (including alternate teams) must report to and remain in the holding room until their numbers are called for them to compete.

15. Teams will be permitted to bring prepared materials (Containers/folders with notes, printed pages, books and bound materials) to the debate area in *hard copy only*. Props will NOT be allowed.

16. Debate teams will draw for the affirmative or negative immediately upon entering the competition room. Teams will have two (2) minutes to prepare prior to the debate.

17. The following specific pattern will be followed during the debate:
 - A. **First Affirmative Speaker** (2 minutes). The speaker for the affirmative presents their arguments.
 - 30 second transition time
 - B. **First Negative Speaker** (2 minutes). The speaker for the negative presents their response to the affirmative speaker's arguments
 - 30 second transition time
 - C. **Second Negative Speaker** (2 minutes). The second speaker for negative presents their arguments.
 - 30 second transition time
 - D. **Second Affirmative Speaker** (2 minutes). The second speaker for the affirmative responds to the negative speaker's arguments.
 - 30 second transition time
 - E. **Negative Summary/Rebuttal Speaker** (2 minutes). The negative speaker presents conclusion.
 - 30 second transition time
 - F. **Affirmative Summary/Rebuttal Speaker** (2 minutes). The affirmative speaker presents conclusion.
 - * Thirty (30) seconds transition time will be allowed between each part of the debate to allow

teams to discuss strategy and for judges to rate the prior performance.

*** The full time noted above will be provided. If a team chooses not to use any or all of the time allowed, the opposing team shall still have the full amount of time that would have passed. However, the team whose turn it is may choose to begin their segment of the debate when ready, and the timekeeper will give them the amount of time listed above. (A team does not receive extra time for starting early.)*

**** There will NOT be a time warning given during the debate transitions. It is the responsibility of the competitor to manage their time.*

18. A timekeeper will keep time for each part of the debate and will call time at the end of the maximum amount of time allowed. Speakers must immediately stop speaking when time is called.
*****Competitors are not allowed to use a timing device of any kind during the debate. Participants should practice their parts to make sure that they are within the time frames and must rely solely on the time warning provided by the timekeeper.*
19. Teams are permitted to discuss and write notes with each other during all parts of the debate, however, table decorum will be evaluated on the rating sheet with the intent that teams will conduct themselves in a professional manner without distracting the other team. Paper is allowed for note taking.
20. At least three (3) team members must speak in the debate.
21. All members of the winning teams of each match, must return to the holding room until recalled. Waiting winning teams are not allowed to communicate with other teams.

Final Scoring

22. The test score from Round One will be used to qualify the team for Round Two, and will NOT be used as part of the final score.
23. In case of a tie during the paired matchups, the highest averaged test score will be used to determine which team advances in the bracket and/or final rank if needed.

BIOMEDICAL DEBATE ROUND TWO – RATING SHEET

Section # _____
Team # _____

Judge's Signature _____
Division: SS ____ PS ____

1. First Affirmative Speech							
	Excellent 10 points	Good 8 points	Average 6 points	Fair 4 points	Poor 0 points	JUDGE SCORE - A	JUDGE SCORE - N
A. Arguments & Evidence (Persuasiveness)	The arguments & evidence clearly expresses the team's viewpoint in a highly persuasive manner.	The arguments & evidence mostly expresses the team's viewpoint and provides responses that are persuasive.	The arguments & evidence somewhat express the team's viewpoint and provides moderately persuasive responses.	The arguments & evidence are slightly persuasive.	The arguments are not persuasive or there is not an argument presented		
	Excellent 5 points	Good 4 points	Average 3 points	Fair 2 points	Poor 0 points	JUDGE SCORE - A	JUDGE SCORE - N
B. Flow & Logic of speech	The content of the speech flows smoothly, is thoughtfully constructed and makes logical sense.	The content of the speech flows smoothly and makes sense.	The speech flows moderately smoothly and makes sense most of the time.	The speech has an inconsistent flow and makes sense some of the time.	The speech does not flow or make logical sense.		
C. Relevance of arguments	All arguments were accurate, relevant to topic and strong. Was able to defend position.	Majority of arguments were accurate, relevant to topic and strong. Was able to defend position.	Some of the arguments were accurate, relevant to topic and strong. Was somewhat able to defend position.	Arguments were not accurate and/or relevant to topic. Was unable to defend position.	No arguments were made. Unable to defend position.		
2. First Negative Speech							
	Excellent 15 points	Good 12 points	Average 9 points	Fair 6 points	Poor 0 points	JUDGE SCORE - A	JUDGE SCORE - N
A. Arguments & Evidence	All counterarguments were accurate, relevant to topic and strong. Was able to accurately defend position.	Majority of counterarguments were accurate, relevant to topic and strong. Was able to defend position.	Some of the counterarguments were accurate, relevant to topic and strong. Was somewhat able to defend position.	Counterarguments were not accurate and/or relevant to topic. Was unable to defend position.	No counterarguments were made. Unable to defend position.		
3. Second Negative Speech							
	Excellent 10 points	Good 8 points	Average 6 points	Fair 4 points	Poor 0 points	JUDGE SCORE - A	JUDGE SCORE - N
A. Arguments & Evidence (Persuasiveness)	The arguments & evidence clearly expresses the team's viewpoint in a highly persuasive manner.	The arguments & evidence mostly expresses the team's viewpoint and provides responses that are persuasive.	The arguments & evidence somewhat express the team's viewpoint and provides moderately persuasive responses.	The arguments & evidence are slightly persuasive.	The arguments are not persuasive or there is not an argument presented		

3. Second Negative Speech Cont'd							
	Excellent 5 points	Good 4 points	Average 3 points	Fair 2 points	Poor 0 points	JUDGE SCORE - A	JUDGE SCORE - N
B. Flow & Logic of speech	The content of the speech flows smoothly, is thoughtfully constructed and makes logical sense.	The content of the speech flows smoothly and makes sense.	The speech flows moderately smoothly and make sense most of the time.	The speech has an inconsistent flow and makes sense some of the time.	The speech does not flow or make logical sense.		
C. Relevance of arguments	All arguments were accurate, relevant to topic and strong. Was able to defend position.	Majority of arguments were accurate, relevant to topic and strong. Was able to defend position.	Some of the arguments were accurate, relevant to topic and strong. Was somewhat able to defend position.	Arguments were not accurate and/or relevant to topic. Was unable to defend position.	No arguments were made. Unable to defend position.		
4. Second Affirmative Speech							
	Excellent 15 points	Good 12 points	Average 9 points	Fair 6 points	Poor 0 points	JUDGE SCORE - A	JUDGE SCORE - N
A. Arguments & Evidence	All counterarguments were accurate, relevant to topic and strong. Was able to accurately defend position.	Majority of counterarguments were accurate, relevant to topic and strong. Was able to defend position.	Some of the counterarguments were accurate, relevant to topic and strong. Was somewhat able to defend position.	Counterarguments were not accurate and/or relevant to topic. Was unable to defend position.	No counterarguments were made. Unable to defend position.		
5. Negative Summary/Rebuttal Speech							
	Excellent 5 points	Good 4 points	Average 3 points	Fair 2 points	Poor 0 points	JUDGE SCORE - A	JUDGE SCORE - N
A. Evidence and effectiveness	The negative rebuttal was clear and highlighted the point of view with confidence.	The negative rebuttal was effective	The evidence used in the negative rebuttal was mediocre.	Not enough evidence was used in the negative rebuttal.	No evidence was provided in the negative rebuttal.		
B. Clarification of argument	The negative rebuttal was clear and significantly strengthened the negative point of view	N/A	The negative rebuttal reiterated the position but did not add anything to the argument.	N/A	No negative rebuttal was provided.		
C. Relevance of rebuttal	Rebuttal was articulately stated and offered strong relevant, researched data to support the argument.	The rebuttal offered good research and supported the argument.	The rebuttal offered mediocre researched data to support the argument.	Little relevancy was offered in the rebuttal. More data/supporting information needed to support the point.	No rebuttal was offered or the rebuttal was not relevant to the topic.		
6. Affirmative Summary/Rebuttal Speech							
	Excellent 5 points	Good 4 points	Average 3 points	Fair 2 points	Poor 0 points	JUDGE SCORE - A	JUDGE SCORE - N
A. Evidence and effectiveness	The affirmative rebuttal was clear and highlighted the point of view with confidence.	The affirmative rebuttal was effective.	The evidence used in the affirmative rebuttal was mediocre.	Not enough evidence was used in the affirmative rebuttal.	No evidence was provided in the affirmative rebuttal.		
B. Clarification of argument	The affirmative rebuttal was clear and significantly strengthened the affirmative point of view	N/A	The affirmative rebuttal reiterated the position but did not add anything to the argument.	N/A	No affirmative rebuttal was provided.		

6. Affirmative Summary/Rebuttal Speech Cont'd							
	Excellent 5 points	Good 4 points	Average 3 points	Fair 2 points	Poor 0 points	JUDGE SCORE - A	JUDGE SCORE - N
C. Relevance of rebuttal	Rebuttal was articulately stated and offered strong relevant, researched data to support the argument.	The rebuttal offered good research and supported the argument.	The rebuttal offered mediocre researched data to support the argument.	Little relevancy was offered in the rebuttal. More data/supporting information needed to support the point.	No rebuttal was offered or the rebuttal was not relevant to the topic.		
7. Overall Debate Qualities (AFFIRMATIVE)							
	Excellent 5 points	Good 4 points	Average 3 points	Fair 2 points	Poor 0 points	JUDGE SCORE - A	JUDGE SCORE - N
A. Voice Pitch, tempo, volume, quality	Each competitor's voice was loud enough to hear. The competitors varied rate & volume to enhance the speech. Appropriate pausing was employed.	Each competitor spoke loudly and clearly enough to be understood. The competitors varied rate OR volume to enhance the speech. Pauses were attempted.	Each competitor could be heard most of the time. The competitors attempted to use some variety in vocal quality, but not always successfully.	Judges had difficulty hearing /understanding much of the speech due to little variety in rate or volume.	The competitor's voice is too low or monotone. Judges struggled to stay focused during the majority of presentation.		
B. Stage Presence Poise, posture, eye contact, and enthusiasm	Movements & gestures were purposeful and enhanced the delivery of the speech and did not distract. Body language reflects comfort interacting with audience. Facial expressions and body language consistently generated a strong interest and enthusiasm for the topic.	The competitors maintained adequate posture and non-distracting movement during the speech. Some gestures were used. Facial expressions and body language sometimes generated an interest and enthusiasm for the topic.	Stiff or unnatural use of nonverbal behaviors. Body language reflects some discomfort interacting with audience. Limited use of gestures to reinforce verbal message. Facial expressions and body language are used to try to generate enthusiasm but seem somewhat forced.	Most of the competitor's posture, body language, and facial expressions indicated a lack of enthusiasm for the topic. Movements were distracting.	No attempt was made to use body movement or gestures to enhance the message. No interest or enthusiasm for the topic came through in presentation.		
C. Diction*, Pronunciation** and Grammar	Delivery emphasizes and enhances message. Clear enunciation and pronunciation. No vocal fillers (ex: "ahs," "uh/ums," or "you-knows"). Tone heightened interest and complemented the verbal message.	Delivery helps to enhance message. Clear enunciation and pronunciation. Minimal vocal fillers (ex: "ahs," "uh/ums," or "you-knows"). Tone complemented the verbal message.	Delivery adequate. Enunciation and pronunciation suitable. Noticeable verbal fillers (ex: "ahs," "uh/ums," or "you-knows") present. Tone seemed inconsistent at times.	Delivery quality minimal. Regular verbal fillers (ex: "ahs," "uh/ums," or "you-knows") present. Delivery problems cause disruption to message.	Many distracting errors in pronunciation and/or articulation. Monotone or inappropriate variation of vocal characteristics. Inconsistent with verbal message.		
	Excellent 5 points	Good 4 points	Average 3 points	Fair 2 points	Poor 0 points	JUDGE SCORE - A	JUDGE SCORE - N
D. Decorum, professional behavior toward other team	All statements and responses were respectful and appropriate. Decorum was professional toward the other team.	N/A	Most statements and responses were respectful. Seldom interrupted or talked over other team members.	N/A	Decorum was not professional. Statements and responses were consistently not respectful. Interrupted or talked over other team members.		

7. Overall Debate Qualities (AFFIRMATIVE) Cont'd							
	Excellent 5 points	Good 4 points	Average 3 points	Fair 2 points	Poor 0 points	JUDGE SCORE - A	JUDGE SCORE - N
E. Team Participation	Excellent example of shared collaboration. Three team members spoke, demonstrating equal knowledge of the topic.	Most team members were actively engaged in the debate and appeared to be knowledgeable on the topic.	The team worked together relatively well. Some team members appeared more knowledgeable than others.	The team did not work effectively together.	One team member dominated the debate.		
8. Overall Debate Qualities (NEGATIVE)							
	Excellent 5 points	Good 4 points	Average 3 points	Fair 2 points	Poor 0 points	JUDGE SCORE - A	JUDGE SCORE - N
A. Voice Pitch, tempo, volume, quality	Each competitor's voice was loud enough to hear. The competitors varied rate & volume to enhance the speech. Appropriate pausing was employed.	Each competitor spoke loudly and clearly enough to be understood. The competitors varied rate OR volume to enhance the speech. Pauses were attempted.	Each competitor could be heard most of the time. The competitors attempted to use some variety in vocal quality, but not always successfully.	Judges had difficulty hearing /understanding much of the speech due to little variety in rate or volume.	The competitor's voice is too low or monotone. Judges struggled to stay focused during the majority of presentation.		
B. Stage Presence Poise, posture, eye contact, and enthusiasm	Movements & gestures were purposeful and enhanced the delivery of the speech and did not distract. Body language reflects comfort interacting with audience. Facial expressions and body language consistently generated a strong interest and enthusiasm for the topic.	The competitors maintained adequate posture and non-distracting movement during the speech. Some gestures were used. Facial expressions and body language sometimes generated an interest and enthusiasm for the topic.	Stiff or unnatural use of nonverbal behaviors. Body language reflects some discomfort interacting with audience. Limited use of gestures to reinforce verbal message. Facial expressions and body language are used to try to generate enthusiasm but seem somewhat forced.	Most of the competitor's posture, body language, and facial expressions indicated a lack of enthusiasm for the topic. Movements were distracting.	No attempt was made to use body movement or gestures to enhance the message. No interest or enthusiasm for the topic came through in presentation.		
C. Diction*, Pronunciation** and Grammar	Delivery emphasizes and enhances message. Clear enunciation and pronunciation. No vocal fillers (ex: "ahs," "uh/ums," or "you-knows"). Tone heightened interest and complemented the verbal message.	Delivery helps to enhance message. Clear enunciation and pronunciation. Minimal vocal fillers (ex: "ahs," "uh/ums," or "you-knows"). Tone complemented the verbal message	Delivery adequate. Enunciation and pronunciation suitable. Noticeable verbal fillers (ex: "ahs," "uh/ums," or "you-knows") present. Tone seemed inconsistent at times.	Delivery quality minimal. Regular verbal fillers (ex: "ahs," "uh/ums," or "you-knows") present. Delivery problems cause disruption to message.	Many distracting errors in pronunciation and/or articulation. Monotone or inappropriate variation of vocal characteristics. Inconsistent with verbal message.		

8. Overall Debate Qualities (NEGATIVE) Cont'd							
	Excellent 5 points	Good 4 points	Average 3 points	Fair 2 points	Poor 0 points	JUDGE SCORE - A	JUDGE SCORE - N
D. Decorum, professional behavior toward other team	All statements and responses were respectful and appropriate. Decorum was professional toward the other team.	N/A	Most statements and responses were respectful. Seldom interrupted or talked over other team members.	N/A	Decorum was not professional. Statements and responses were consistently not respectful. Interrupted or talked over other team members.		
	Excellent 5 points	Good 4 points	Average 3 points	Fair 2 points	Poor 0 points	JUDGE SCORE - A	JUDGE SCORE - N
E. Team Participation	Excellent example of shared collaboration. Three team members spoke, demonstrating equal knowledge of the topic.	Most team members were actively engaged in the debate and appeared to be knowledgeable on the topic.	The team worked together relatively well. Some team members appeared more knowledgeable than others.	The team did not work effectively together.	One team member dominated the debate.		
9. Overall Debate Winner							
	10 points				0 points	JUDGE SCORE - A	JUDGE SCORE - N
Debate Winner	10 points awarded to the winner of the debate.	N/A	N/A	N/A	0 points awarded to the losing debate team		
AFFIRMATIVE TOTAL POINTS (85):							
NEGATIVE TOTAL POINTS (85):							

*Definition of Diction – Choice of words especially with regard to correctness, clearness, and effectiveness.

**Definition of Pronunciation – Act or manner of uttering officially.

BIOMEDICAL DEBATE BRACKET SUMMARY SCORESHEET

Due to the bracketed nature of this round two event, this Summary Scoresheet will be used to calculate the total judge scores for the Affirmative and Negative Teams in each paired matchup. Each judge score should be recorded below, and then the team's average score calculated. The team with the highest average score will be deemed the winner of the paired matchup and will advance to the next paired matchup, following the schedule of the posted bracket.

Round: _____ Section _____ AFFIRMATIVE = TEAM ID # _____ NEGATIVE = TEAM ID # _____

AFFIRMATIVE TEAM ID	JUDGE #1 SCORE	JUDGE #2 SCORE	JUDGE #3 SCORE	TOTAL AVERAGE SCORE FOR AFFIRMATIVE

NEGATIVE TEAM ID	JUDGE #1 SCORE	JUDGE #2 SCORE	JUDGE #3 SCORE	TOTAL AVERAGE SCORE FOR NEGATIVE

WINNING TEAM
(check one)

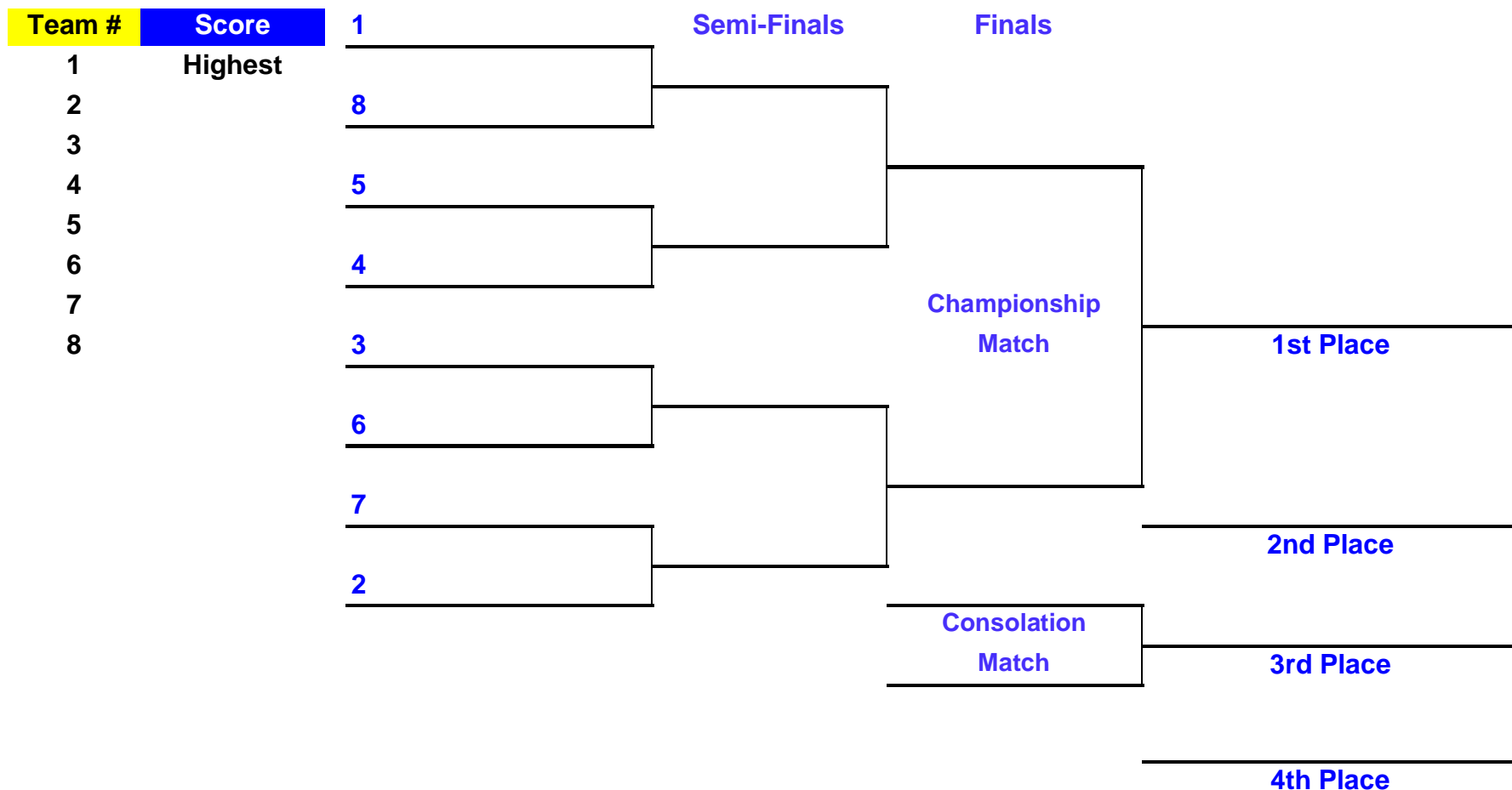
Affirmative Team _____

Negative Team _____

Winning Team = ID# _____

Judge's Printed Name and Signature: _____

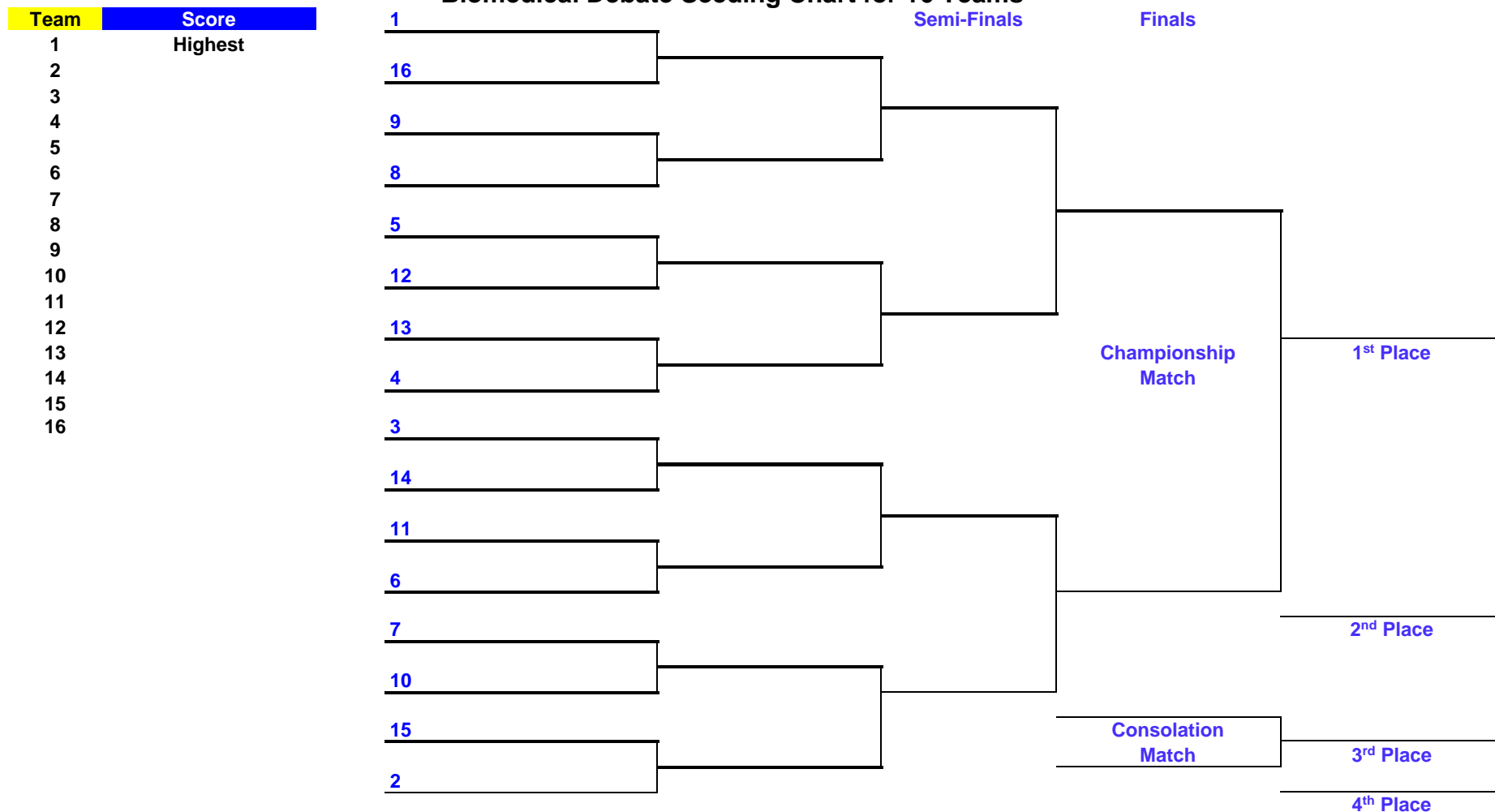
Biomedical Debate Seeding Chart for 8 Teams



Instructions: Add the scores of team members to arrive at a team total, and then divide by the number of team members to get the team average. Sort team averages from highest to lowest scores. The team with the highest score after the test is seeded #1, the team with the next highest score is seeded #2, and so on until the chart is filled with the top 8 teams.

Note: The electronic version of the Biomedical Debate seeding process is available at the [CE Useful Tools](#) page.

Biomedical Debate Seeding Chart for 16 Teams



Instructions: Add the scores of team members to arrive at a team total, and then divide by the number of team members to get the team average. Sort team totals from highest to lowest scores. The team with the highest score after the test is seeded #1, the team with the next highest score is seeded #2, and so on until the chart is filled with the top 16 teams. The winners of each bracket play for 1st and 2nd place, the winner of the consolation match is the 3rd place team.

Note: The electronic version of the Biomedical Debate seeding process is available at the [CE Useful Tools](#) page.

Biomedical Debate Seeding Chart for 32 Teams

