

Forensic Science

PLEASE NOTE THE FOLLOWING DIFFERENCES IN HOW THIS EVENT WILL BE RUN AT HOSA CANADA'S FALL LEADERSHIP CONFERENCE (FLC):

1. Written test time shortened to 40 minutes (still 50 questions) at FLC only.
2. Written test will take place online and be open book at FLC only.
3. Only the written test portion of the event will be evaluated at FLC.

PLEASE NOTE HOSA CANADA'S SPRING LEADERSHIP CONFERENCE (SLC) WILL BE IN-PERSON AND THIS EVENT WILL BE RUN ACCORDING TO THE GUIDELINES IN THE FOLLOWING PAGES, EXCEPT FOR THE FOLLOWING DIFFERENCE:

1. There will be a verbal announcement when there are 30 minutes and 5 minutes remaining to complete the written test at SLC.
**Please note that NO verbal announcements will be made at the International Leadership Conference (ILC).*
2. Teams are NOT to bring an electronic device to record their written conclusion at SLC. Teams will instead be expected to hand-write their written conclusion.

Forensic Science

Teamwork Event

Eligible Divisions: Secondary & Postsecondary / Collegiate	Round 1: 50 Q test in 60 minutes	Digital Upload: YES * review #18 for unique details
Team Event: 2 competitors per team	Round 2: Case Study Analysis	



New for 2025 – 2026

Teams will be given a total of 45 minutes for Round Two analysis. *DHO: Health Science* resource has been updated to the 10th edition. Editorial updates have been made.

Event Summary

Forensic Science allows HOSA members to work as a team to apply their knowledge and skills in creating a solution to a forensic science-related problem. This competitive event consists of two rounds, and each team consists of 2 people. Round One is a written test that evaluates the team's understanding of forensic science. The test score from Round One will be used to qualify the team for Round Two. In Round Two, teams will be given a case study to analyze, including physical evidence and written information such as police reports and an autopsy. Teams may have time to view a "crime scene" and/or review resources to write their conclusions with supporting evidence. This event aims to inspire members to be proactive future health professionals and critically examine elements of a forensic case.

CAUTION: *The content and pictures in the suggested resources are graphic in nature and may be considered offensive by some. HOSA Advisors should seek administrative and parental approval before allowing HOSA members to participate in this event. This event is intended for advanced level HOSA members who have already completed one or more courses in Medical Terminology and Anatomy & Physiology.*

Sponsorship

HOSA-Future Health Professionals appreciates the sponsorship of this event by [Anatomage](#).

Anatomage

Dress Code

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

Competitor Must Provide

- [Photo ID](#) both rounds
- #2 lead pencils (NOT mechanical) with eraser for both rounds
- 2 Highlighters (optional)
- A Personal Electronic device on battery power containing a typing program of the competitor's choosing AND internet accessibility for Round Two (one or two devices allowed per team but only one device will be used with the other as backup; a school device is not recommended).

HOSA Conference Staff will provide equipment and supplies as listed in [Appendix I](#).

General Rules

1. Competitors must be familiar with and adhere to the [General Rules and Regulations](#)

Official References

HOSA Forensic Science ILC Guidelines (August 2025)

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The expectation is that competitors read and are aware of all content within these guidelines and associated links. Successful competitors will study all links for detailed information.

2. The references below are used in the development of the test questions:
 - a. [Bertino, A., Bertino, P. \(Latest Ed\) Forensic Science Fundamentals. National Geographic Learning/South-Western Cengage Learning.](#)
 - b. [Bell, S. \(Latest Ed\). Forensic Science. Taylor & Francis Group/CRC Press.](#)
3. Optional References: Competitors should have a strong background in Medical Terminology, Anatomy and Physiology, and Pathophysiology in order to best respond to the Round Two case study. The following resources are recommended study materials to assist competitors with these subjects. Round One test questions are NOT taken from these resources:
 - a. [Simmers, L., Simmers-Nartker, K., Simmers-Kobelak, S, and Morris, L. DHO: Health Science. Cengage Learning, Latest edition.](#)
 - b. [Ehrlich, Ann. Medical Terminology for Health Professions, Cengage Learning, Latest Edition.](#)
 - c. [Frazier. Essentials of Human Diseases and Conditions. Elsevier, Latest edition.](#)

ROUND ONE: The Test

4. [Test Instructions:](#) The written test will consist of 50 multiple-choice items in a maximum of 60 minutes.
5. The written test plan for Forensic Science is:
 - Forensic History and Careers - 10%
 - Crime Scene and Death Investigation - 20%
 - Forensic Toxicology and Pharmacology - 20%
 - Forensic Anthropology - 10%
 - Forensic Entomology - 10%
 - Identification of Blood, Bloodstains, Biological Fluids and Stains - 10%
 - Techniques of DNA Analysis - 10%
 - Forensic Psychology and Psychiatry - 10%

6. Sample Round One Test Questions

1. What is the term for a conscious and deliberate attempt to minimize or deny symptoms of a mental disorder? (Bell pp 318)
 - A. Deception
 - B. Malingering
 - C. Dissimulation**
 - D. Incompetence
2. Where are blowfly eggs usually found on a dead body? (Bell pp 122)
 - A. Close to a wound or natural orifice**
 - B. Under any covering such as clothing, leaves, etc.
 - C. On the chest or in a hairy body area
 - D. Under the body close to the ground
3. When a victim drowns in freshwater, what term describes the massive destruction of RBC's? (Bertino pp 500)
 - A. Pneumothorax
 - B. Asphyxia
 - C. Sickling of RBC's
 - D. Autolysis**
7. **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.

ROUND TWO: The Case Study

8. The top teams from Round One will advance to Round Two. The number of advancing teams will be determined by the scores obtained in Round One and the space and time available for Round Two. Round Two finalists will be announced on-site at ILC per the conference agenda.

9. In Round Two, each team will be asked to solve the same case study. The case study is a secret problem that is not disclosed until the event begins. Professional ethics demand that competitors DO NOT discuss or reveal the secret topic until after the event has concluded. Competitors who violate this ethical standard will be penalized per [the GRRs](#).
10. No pre-printed or recorded materials/notes may be brought to the competition. Competitors will be provided with index cards, or paper, for taking notes. They may use these notes throughout the event but will submit them to event personnel upon finishing their written conclusion. Teams must bring a charged laptop and pencils, and each team member has the option to bring one highlighter to the competition.
11. Multiple rooms or one large room (ballroom) with multiple stations may be used for the written conclusion. If one large room is used, there will be tables and chairs for multiple teams. When possible, the room will be large enough so that competitors will be able to quietly discuss and prepare their conclusions without being overheard by other teams. The exact set-up will vary by Chartered Association and at ILC. A holding room may be used. Please note that it is also possible that all competitors in Round Two will view the case study at the same time and prepare their written conclusion at the same time.

CASE STUDY ANALYSIS OPTIONS:

- a. **There may be a physical crime scene.** If this is the case, competitors will be given six (6) minutes to view the scene and take notes prior to the written conclusion. Teams will then be given 34 minutes to write their conclusion, with an additional 5 minutes for digital upload, for a total of 45 minutes.
 - i. This part of the event allows competitors to gather evidence/information about the death. There may be a written police report and/or other written information about the case. There may be physical evidence in the room for the competitors to visually analyze, including but not limited to a manikin, bones, dental x-rays, photos, or other physical evidence. There may also be a police officer, medical examiner and/or witness(es) in the room. Each team will analyze the same information/evidence, possibly at the same time, but will not be allowed to interact with anything they see or hear. Actors/personnel will not answer any questions.
 - b. **If the case study does not involve a crime scene or physical evidence and instead is in a written or digital format,** then competitors will be directed to a room for developing their written conclusion and will be given a total of 45 minutes (40 minutes to write the conclusion, plus an additional 5 minutes for the digital upload).
 - i. This part of the event allows competitors to gather evidence/information about the death. There may be a written police report and/or other written information about the case. A digital tool, such as Anatomage, Thinglink, etc....may also be an option used in this part of the event.
12. One copy of the written information will be provided per team, including the police report, autopsy, etc., if applicable. If provided, team members will be allowed to take notes on these documents and use them to help develop their written conclusion. These will be returned to event personnel at the conclusion of this event. Team members will be allowed to take notes on any provided documents and use them to help develop their written conclusion.
13. Competitors will identify the time of death range, immediate cause of death, manner of death, other conditions contributing to cause of death (if applicable) in addition to evidence (pertinent observations and facts) about the case that explains why teams came to the conclusions they reached. Teams will write up their conclusions following the report template below and submit this per the instructions given by event personnel.
14. A laptop or tablet will be brought to the event:
 - a. On battery power,
 - b. Containing a typing program (Microsoft Word, Text, Google Docs, etc.),
 - c. With internet accessibility,
 - d. With a USB port.
 - e. Competitors are encouraged to bring personal devices so firewalls on school-issued devices do not create barriers for competitors.
 - f. Only ONE laptop/tablet will be used during this event; a second device may only be used as a backup if needed.

15. Electricity is NOT provided and CANNOT be used. Electronic devices must operate on battery power.
16. Teams will type their written conclusion into the typing program of their choice (Microsoft Word, Text, Google Docs, etc.) following the formatting in these guidelines below. Competitors should check with event staff prior to the event to determine if internet access will be provided to support an online typing program like Google Docs.

Submission Process:

17. At the end of forty (40) minutes, competitors will then be given five (5) additional minutes to submit a digital upload of their written conclusion.

18. Submission Process Used at ILC - HOSA Digital Upload System

- a. Competitors (ONE person per team) will submit their written conclusions via the HOSA Digital Upload System on-site at ILC as soon as competition has concluded.
- b. Upon registering for ILC, competitors in this event will receive an email with their unique digital upload link. They will receive this email a second time approximately 5 days prior to ILC competition. Competitors need to save the unique digital upload link that they received by email.
- c. At ILC, upon completion of the typed written conclusion competitors will be directed to upload their written conclusion using their unique upload link provided via email.
- d. As a backup, HOSA event staff will have a master list of all upload links to provide to a team should they not have their email.
- e. Internet is used for this event at ILC - Competitors are only allowed on the selected website provided by HOSA. They are NOT allowed to search the Internet for content to help write their written conclusions. The written conclusions will be developed with evidence and ideas the competitors can speak to from their own knowledge base and/or from facts provided in the autopsy or other supporting case information. The Internet will NOT be used to research information to support the written conclusion development.

19. Other Submission Options

- a. Chartered Associations will determine the best submission process for all regional and/or state level conferences.
 - i. Competitors could save their written conclusions on a USB drive provided by HOSA.
 - ii. Competitors could submit their written conclusions via a digital form such as Google or Wufoo.
 - iii. Competitors could upload their written conclusions to the HOSA Digital Upload System, as described above.
 - iv. Or competitors could use any other method deemed appropriate by HOSA event staff.
- b. Please check with your local advisor to determine the process for submitting the written conclusion during the competition.

20. **Time Remaining Announcements:** There will be an announcement when 20 minutes remain of the 40-minute written conclusion portion of the event. An additional five (5) minutes will then be announced to submit the written conclusion; there will be no additional time remaining announcements. The timekeeper will stop teams at the end of time and teams will be excused. State and ILC event staff have the discretion to adjust this 5 minute time frame to account for the submission process used.

Final Scoring

21. The team test score average will be added to the written conclusion score to determine the final results.
22. In case of a tie, the highest average test score will determine the rank.

Future Opportunities

Graduating from high school or completing your postsecondary/collegiate program does not mean your HOSA journey has to end. As a HOSA member, you are eligible to become a HOSA Lifetime Alumni Member - a free and valuable opportunity to remain connected, give back, and help to shape the future of the organization. Learn more and sign up at hosa.org/alumni.

FORENSIC SCIENCE

Written Conclusion

This form will be provided digitally to competitors at ILC.

Section# _____

Team # _____

Division: SS _____ PSC _____

CASE STUDY OPINION

Time of Death Range: _____

Immediate Cause of Death: _____

Manner of Death: _____

Other Conditions contributing to the immediate cause of death, if applicable:

Evidence to support opinion:

FORENSIC SCIENCE - ROUND TWO

Section # _____

Judge's Signature _____

Team # _____

Division: SS _____ PSC _____

Items Evaluated	Excellent 10 points	Good 8 points	Average 6 points	Fair 4 points	Poor 0 points	JUDGE SCORE
1. Time of Death Range	Indicates the date and approximate time of death correctly.	N/A	Indicates a close approximation of the correct date and time of death.	N/A	Date or time is not close to the actual date or time of death or is missing altogether.	
2. Immediate Cause of Death	Accurately identifies the medical cause of death.	N/A	A partial identification of the medical cause of death is included.	N/A	The response does not reflect an accurate cause of death.	
3. Manner of Death: - Natural - Accident - Suicide - Homicide - Undetermined	Accurately identifies the manner of death as one of the five listed.	N/A	N/A	N/A	Does not accurately identify the manner of death as one of the five listed.	
4. Other Conditions, as applicable	Team includes most specific and relevant factors contributing to the death but not considered the immediate cause.	N/A	Team includes only some of the relevant factors contributing to the death but not considered the immediate cause.	N/A	Team is not able to identify contributing factors to the death.	
5. EVIDENCE - Connects Evidence to Conclusions	Writing includes numerous pieces of evidence that completely supports the conclusions with logical details, facts, or examples.	N/A	Writing includes some pieces of evidence that partially supports the conclusions.	N/A	Writing does not include any pieces of evidence to support the conclusions.	
6. EVIDENCE - Application of Knowledge	Team draws numerous accurate conclusions using their knowledge of human anatomy and physiology and forensic science	N/A	Team draws several accurate conclusions using their knowledge of human anatomy and physiology and forensic science	N/A	Team draws very few accurate conclusions using their knowledge of human anatomy and physiology and forensic science	
7. EVIDENCE - Concise, clear and logical	Physical evidence of this case was explained in a clear, concise and logical manner.	Physical evidence was explained in a way that was mostly clear, concise and logical.	The evidence was explained moderately clear, concise, and logically.	Some of the evidence was explained in a clear and logical manner.	The evidence was not explained in a clear or concise manner and information was not logical.	
8.. Grammar, Mechanics and Spelling	Errors in grammar, spelling, punctuation, and capitalization are minimal and not distracting. (0-1 errors).	Minimal errors are found (1-2 errors) which do not detract from the general flow of the written conclusion.	4 errors were found, which detract from the overall flow of the written conclusion.	There are 5 or more errors which detract from the overall meaning and flow of the written conclusion.	Errors are glaring, and the written conclusion is difficult to read and or understand.	
Total Points (80):						