

Forensic Science

Event Category: Teamwork.....

Eligible Divisions: Secondary & Postsecondary/ Collegiate	Round One: 50 Q test (60 minutes)	Digital Upload: YES, Conclusion *Review submission details below
Team Event: 2 competitors per team	Round Two: Case Study Analysis (40 minutes)	Round Two Materials: Personal Electronic Device (battery power, typing program, internet accessibility, USB port, 2 highlighters (optional))



New for 2026-2027

Timing for the case study analysis and upload has been clarified and changed. Editorial updates have been made.

TEXAS HOSA

Make sure to read TEXAS General Rules and Regulations for updated “Electronic Device Policies”.

Area Spring Leadership Conference

Round one online test for Area will be given in December. The top ten (10) teams from each Area will advance to round two (2) in person at the Area Spring Leadership Conference.

- **Round two (2) “case study written conclusion” will be completed on paper rather than on computer.**
- **Top 3 Team scores from each Area will advance to State.**

Texas State Leadership Conference

A Round 1 written exam will be used to slate the top ten (10) teams for Round 2. Both Round 1 and Round 2 for State will be in person.

- **Round two (2) “case study written conclusion” will be completed on paper rather than on computer**
- **Top 3 teams will advance to ILC**

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 two (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 Anatamage .	<i>Anatamage</i>
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General Event Information

General Rules	Competitors must be familiar with and adhere to the General Rules and Regulations .
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.
Competitors Must Provide	• Photo ID for both rounds • Two #2 lead pencils (not mechanical) with an eraser for both rounds • Neon colored foam earplugs, NOT earbuds, for noise control (Rd1-optional) • 2 Highlighters (optional) • A personal electronic device on battery power containing a typing program of the competitors' 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 listed in Appendix I.
Official References	The references below are used in the development of the test questions. • Bertino, A., Bertino, P. (Latest Ed) Forensic Science Fundamentals. National Geographic Learning/South-Western Cengage Learning. • Bell, S. (Latest Ed). Forensic Science. Taylor & Francis Group/CRC Press. 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: • Simmers, L., Simmers-Nartker, K., Simmers-Kobelak, S, and Morris, L. DHO: Health Science. Cengage Learning, Latest edition. • Ehrlich, Ann. Medical Terminology for Health Professions, Cengage Learning. Latest Edition. • Frazier. Essentials of Human Diseases and Conditions. Elsevier, Latest edition.

ROUND ONE- Test

Test Instructions	The written test will consist of 50 multiple-choice items in a maximum of 60 minutes. See test instructions here. The team test score average from Round One will be used to qualify the team for the Round Two case study analysis.
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.
Written Test Plan	The test plan for the Forensic Science Test 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%

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

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.
In Round Two, each team will be asked to analyze 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
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/tablet and pencils, and each team member has the option to bring one highlighter to the competition.
Multiple rooms or one large room (ballroom) with multiple stations may be used for Round Two. 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 at SLC and at ILC. 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: - Physical scene with props, evidence or witnesses/bystanders - Scene presented in a written format - Scene presented in a digital format **In some cases, the event may have multiple options for competitors to analyze, such as a written format in addition to a digital format. Instructions will be given to competitors on-site.

6. 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.
7. 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.
8. The laptop or tablet brought to the event must be:
 - a. On battery power,
 - b. Contain 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.
9. Electricity is NOT provided and CANNOT be used. Electronic devices must operate on battery power.
10. 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. **Once teams complete their written conclusion, they MUST download their document as a PDF file for submission. If the upload is not submitted as a single PDF document, the judge will NOT view it and NO points will be awarded.**
11. **Competitors will have a total of 40 minutes to analyze and write their conclusion.** An additional five (5) minutes will be given to submit a digital upload of their written conclusion to the HOSA Digital Upload System.
12. **Submission Process Used at ILC**
 - a. ONE competitor per team will submit their written conclusion (**as a PDF file**) via the [HOSA Digital Upload System](#) on-site at ILC as directed.
 - 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 five days prior to ILC. Competitors need to *SAVE THE UNIQUE UPLOAD LINK* they received by email.
 - c. At ILC, 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. HOSA provided 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.
13. **Other Submission Options:** Chartered Associations will determine the best submission process for all regional and/or state level conferences. Some options may include: saving written conclusions to a USB drive provided by HOSA, submitting conclusions via a digital form such as Google or Wufoo, or any other method deemed appropriate by HOSA event staff. Please check with your local advisor to determine the process for submitting the written conclusion during the competition.

14. **Time Remaining Announcements:** Five (5) minutes will 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 log off their device, turn in their paperwork, and be excused. State and ILC event staff have the discretion to adjust the five minute time frame to account for the submission process.

Final Scoring

1. The team's test score average will be added to the case study analysis score to determine the final results.
2. In the case of a tie, the highest averaged test score will be used to determine the final rank.

Future Opportunities

The HOSA Scholarship program has funding available for HOSA members who have an interest in various health careers! The application process begins January 1, 2027, and can be found here: <https://hosa.org/scholarships/>.

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.

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Case Study Analysis Written Conclusion

Team #: _____ Team Member's Last Names: _____ Division: _____ SS, _____ PS/C

CASE STUDY ANALYSIS 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:

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Round Two Case Study Analysis Rubric

Team #: _____ Division: _____ SS, _____ PS/C Judge's Signature: _____

If the submission is NOT uploaded as a PDF file, judges are not to score the submission.

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 the 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)						