

New for 2021-2022

Fulcher text has been retired. *The Pharmacy Technician: A Comprehensive Approach* by Moini has been added.
Rounding has been clarified.

Event Summary

Pharmacology provides HOSA members with the opportunity to gain knowledge and skills regarding the area of healthcare concerned with uses, effects, and modes of actions of drugs. This competitive event consists of a written test with a tie-breaker essay question. This event aims to inspire members to learn about how drugs work in the body, proper administration, and adaptations for different patients and conditions.

Sponsorship This competitive event is sponsored by [CVS Health](#)

Dress Code Competitors must be in official HOSA uniform or proper business attire. Bonus points will be awarded for [proper dress](#).

General Rules

1. Competitors in this event must be active members of HOSA-Future Health Professionals, in good standing.
2. 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 \(GRR\)](#)."
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.

Official References

- [Moini, Jahangir. *The Pharmacy Technician: A Comprehensive Approach*. Cengage Learning, Latest edition.](#)
- [Ford, Susan and Sally Roach. *Roach's Introductory Clinical Pharmacology*. Wolters Kluwer, Latest edition.](#)

Written Test

5. [Test Instructions](#): The written test will consist of 100 multiple choice items in a maximum of 90 minutes.
6. **Time Remaining Announcements**: There will be a verbal announcement when there are 60 minutes, 30 minutes, 15 minutes, 5 minutes, and 1 minute remaining to complete the test.
7. One essay question will be administered with the original test. In case of a tie, the essay question will be judged and used to break the tie.

8. The test plan for Pharmacology is:
 Safety will be integrated throughout the test plan
- Basic Concepts in Pharmacology 12%
 - Career Opportunities in Pharmacology 3%
 - Ethical and Legal Responsibilities 10%
 - Pediatrics and Geriatrics Adaptations 10%
 - Drug Names, Classifications, Action, and Interactions 30%
 - Drug Administration 20%
 - Drug Measurement, Dosage, Conversions 10%
 - Technologies in Pharmacology 5%

NOTE: Chartered associations/regions may use a different process for testing, to include but not limited to pre-conference testing, online testing, and testing at a computer. Check with your Area/Region/State/Chartered Association for the process you will be using.

9. At the International Leadership Conference, HOSA will provide basic handheld calculators (no graphing calculators) for addition, subtraction, division, multiplication and square root.
10. All competitors will receive two 8.5x11" sheets of blank paper for use during testing
11. **ROUNDING:** Converting between measurement systems will often render a different answer depending upon which systems and conversions are being used. The answer to a calculation problem will ultimately be the same answer after appropriate rounding. When determining a solution, round only the final answer after all calculation steps have been completed.

When rounding decimal numbers to the nearest tenths, hundredths, or thousandths, look to the immediate right of the digit located in the position to be rounded. If the number to the direct right is 5 or larger, round to the position up one number and drop everything that follows. If the number to the direct right is 4 or smaller, leave the position being rounded as is and drop everything that follows. In specific situations, answers will be rounded per medical protocol. For example, pediatric dosage is always rounded DOWN to avoid potential overdose. Unless otherwise indicated, all answers should be rounded to the nearest whole number. (Examples: 31.249 (rounded down) = 31 and 23.75 (rounded up) = 24).

12. Sample Test Questions

1. What U.S. federal legislation established financial incentives for the development and marketing of drugs for the treatment of rare diseases?
- A. Amendment to Applications for FDA Approval to Market New Drug
 - B. Drug Regulation and Reform Act of 1978
 - C. Omnibus Budget Reconciliation Act
 - D. **Orphan Drug Act of 1983**
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2. A client who has been taking salicylates for a long period of time should be watched closely for which of the following adverse reactions?
- A. **GI bleeding**
 - B. Fever of undetermined origin
 - C. Hypotension
 - D. Diminished urinary output
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3. Dramamine 25 mg po is ordered for nausea and vomiting. The bottle is labeled 5 mg/4 mL. How many mL will be given per dose?

- A. 16 mL
- B. 20 mL**
- C. 40 mL
- D. 50 mL

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Solution

$$5 \text{ mg}/4 \text{ mL} = 1.25 \text{ mg/mL}$$

$$25 \text{ mg/dose} \times 1 \text{ mL}/1.25 \text{ mg} = 20 \text{ mL/dose}$$

Final Scoring

- 13. The competitor should write his/her answer to the tie-breaker essay question on the tie-breaker page of the test that remains attached to the original test.
- 14. Final rank is determined by the test score. In case of a tie, the essay question will be used to determine the rank.

Competitor Must Provide:

- Two #2 lead pencils with an eraser
- [Photo ID](#)