Pharmacy Science

New for 2018-2019

The event has been moved from Pilot status to Regular Event status.
Numerous changes have been made to the skills and skill steps. Skills have been added and removed.
The list of instruments/equipment has been updated to align with the text.
The DHO: Health Science resource has been deleted.
A new reference has been added by Lisa McCartney.
At ILC, photo ID must be presented prior to competing in each round.
Use of a calculator will be allowed at ILC in both rounds of the event.
Two sheets of blank paper will be provided for calculations.

Purpose To provide HOSA members with an opportunity to develop and demonstrate knowledge and skills in pharmacy careers.

Description This event will consist of two rounds of competition. Round One will be a written, multiple choice test. Written test will measure knowledge and understanding at the recall, application or analysis levels. Higher-order thinking skills will be incorporated as appropriate. The top scoring competitors will advance to Round Two for the performance of selected skill(s) identified in a written scenario. The scenario will require the use of critical thinking skills. The performance will be timed and evaluated according to the event guidelines.

Dress Code Competitors shall wear proper business attire or official HOSA uniform, or attire appropriate to the occupational area, during the orientation, written test and skill(s)– jeans and shorts are not acceptable. Bonus points will be awarded for proper dress.

Rules and Procedures

1. Competitors in this event must be active members of HOSA-Future Health Professionals, in good standing at the appropriate division (secondary or postsecondary/collegiate). Competitors should compete in skill events at the highest level of their training.

2. Competitors must be familiar with and adhere to the **"General Rules and Regulations of the HOSA Competitive Events Program (GRR)."**

3. The test will consist of fifty (50) multiple choice items. The test score will be used as part of the final score for the event.

    Round One: **Written Test Plan**

    Pharmacy Practice History...10%
    Pharmacy Law & Ethics 10%
    Pharmacy Terminology & Abbreviations....................................10%
    Dosage Formulations & Administration Routes.........................10%
    Sterile and Non-Sterile Compounding 5%
    Concentration & Dilutions 5%
    Pharmacy Practice Settings..5%
    Disorders & Treatments 45%

4. All competitors shall report to the site of the event orientation at the time designated. The Round One test will immediately follow the orientation. At ILC, photo ID must be presented prior to competing in each round. **No proxies will be allowed for the orientation.** No study materials are allowed in the room.

5. At the International Leadership Conference, HOSA will provide basic handheld calculators for addition, subtraction, division, multiplication and square root for both Round One and Round Two. Two sheets of blank paper will be provided for calculations in each round. Check with State Advisor to determine if a calculator will be used at the State level.

6. Test Instructions: There will be a maximum of **60 minutes** to complete the test. There will be a verbal announcement when there are 15 minutes remaining.

    NOTE: *States/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 for the process you will be using.*

7. All official references are used in the development of the written test. The specific reference selected for each Skill is listed in the Facilities, Equipment and Materials section of these guidelines.

    - Johnston, Mike. The Pharmacy Technician: Foundations and Practices. Pearson, latest edition.

    - American Academy of Allergy, Asthma, and Immunology. Symptoms and Diagnosis tab (as posted as of September 1, 2018) .https://www.aaaai.org/conditions-and-treatments/allergies/drug-allergy

    - McCartney, Lisa. Sterile Compounding and Aseptic Technique: Concepts, Training, and Assessment for Pharmacy Technician, latest edition.

    - Moini, Jahangir. The Pharmacy Technician: A Comprehensive Approach. Cengage Learning, latest edition.

9. The test score from Round One will be used to qualify the competitor for Round Two.   The skills approved for Round Two for this event are:

    Skill I: Patient Screening for Pharmacist Consultation and Services (4 minutes)
    Skill II: Verifying Controlled Substance Prescription Content and DEA Number (6 minutes)
    Skill III: Withdrawing Liquid from a Vial (15 minutes)
    Skill IV: Compounding an Oral Suspension (15 minutes)
    Skill V: Identifying Equipment *(Including name of instrument and purpose or use)* (15 minutes)
    Skill VI: Filling A Prescription (5 minutes)
    Skill VII: Aseptic Garbing, Hand Washing and Gloving (8 minutes)

10. States/National HOSA have the option of including Skill VI: Identifying Equipment and Skill II: Verifying Controlled Substance Prescription Content and DEA Number, at the same time as the Round One written test.

11.   The selected Skill(s) for Round Two, in the form of a written scenario, will be presented to the competitor at the start of the skill(s) to be performed. One or more skills may be combined in the scenario. The scenario will be the same for each competitor and will include a challenging component that will require the competitor to apply critical thinking skills. A sample scenario can be found here.

12.   The scenario is a secret topic. Professional ethics demand that competitors DO NOT discuss or reveal the secret topic until after the event has concluded. Violation of the ethics rules will be severely penalized.

13.   In case of a tie, the highest test score will be used to determine the rank.

14.   Competitors must complete all steps of the skill listed in the guidelines even if the steps must be simulated/verbalized. Steps may NOT be simulated/verbalized when the equipment/materials are available.

15.   The competitor must earn a score of 70% or higher on the combined skill(s) of the event (excluding the test and ID equipment) in order to be recognized as an award winner at the ILC.

15.   The timing for the skill will begin when the scenario is presented. Competitors will be stopped at the end of the time allowed for the selected skill(s).

Competitors Must Provide:
- ☐ Event guidelines (orientation)
- ☐ Two #2 lead pencils with eraser
- ☐ Ink pen
- ☐ Shoe covers
- ☐ Face mask
- ☐ Hair cover
- ☐ Beard cover (if appropriate)
- ☐ Hair Tie to pull back long hair (if appropriate)
- ☐ Sterile non-shedding gown with snug-fitting cuffs
- ☐ Eye shields or googles
- ☐ Sterile, powder-free, latex free gloves
- ☐ A photo ID

FOR SPECIFICS ON EVENT MANAGEMENT SEE MANAGING COMPETITIVE EVENT

Required Personnel
- ☐ One Event Manager per event
- ☐ One QA to provide quality assurance for the event by ensuring that the guidelines are followed and all event documents are complete.
- ☐ One Section Leader per section
- ☐ One judge per skill selected per section
- ☐ Proctors for Testing – Approximately one proctor for 20 competitors
- ☐ One-two event assistants per section
- ☐ Patients/actors as required by the scenario
- ☐ Holding room attendants(s)
- ☐ Timekeepers (if necessary)

Facilities, Equipment and Materials (Per Section)

Round One: Written Test (Reference: All resources)
- ☐ List of competitors for check-in
- ☐ One pre-numbered test per competitor
- ☐ Scantron/answer forms- one copy per competitor
- ☐ Blank paper (2 sheets per competitor)
- ☐ Calculator (one per competitor)
- ☐ Evaluation forms- competitor and event personnel
- ☐ #2 lead pencils with eraser to complete evaluations (event personnel)

Round Two Skills: General

- ☐ Clinical and/or laboratory stations for selected skills
- ☐ Holding rooms or areas for competitors (if off-site)
- ☐ List of competitors for check-in
- ☐ Written Scenario-copies for judges, section leaders
- ☐ Actor and judge scripts as needed
- ☐ #2 lead pencils (judges & evaluations)
- ☐ Stopwatch(s)
- ☐ Rating sheets - one per judge per competitor
- ☐ Evaluation forms-competitor, judge, event personnel
- ☐ Copy of guidelines for judges
- ☐ Hand sanitizer (alcohol based handrub)
- ☐ Blank paper (2 sheets per competitor)
- ☐ Calculator (one per competitor)

Skill I Patient Screening for Pharmacist Consultation and Services (Reference: All)

- ☐ Scenario explaining which screening(s) are to be done
- ☐ Copies of the screening checklist identified in the scenario (judges will use during rating of competitor – found on pages 9-13 of the guidelines)
- ☐ Patient/actor

Skill II Verifying Content of a Controlled Substance Prescription and DEA Number (Reference: Johnston)

- ☐ Scenario (must include the prescription to be verified)
- ☐ Prescription Verification Form (one per competitor – found on page 15 of the guidelines)
- ☐ Sample controlled substance prescription with DEA number
    - o The prescription should include 5 missing items from the list of those required. Competitors are asked to identify the missing components.

Skill III Sterile Compounding: Withdrawing Liquid from a Vial (References: Johnston, Moini, *McCartney*)

- ☐ Transport vehicle (stainless steel cart, basket or tray to facilitate transfer)
- ☐ Hood (can be simulated – large enough to comfortably work under)
- ☐ Wipes for cleaning the transport vehicle and supplies
- ☐ Alcohol preps / swabs
- ☐ Vial to be used
- ☐ Vials to serve as distractors
- ☐ Syringe and needle of correct size
- ☐ Directions for drug and amount to be withdrawn (scenario)

- ☐ Biohazard container (puncture proof)
- ☐ Alcohol-based hand sanitizer
- ☐ Wastebasket (large enough for all competitors' gowns and paper from supplies)
- ☐ Stopwatch
- ☐ Adjustable height chair OR adjustable height table (skill can be done either sitting or standing depending on competitor's preference). One of the two (chair or table) will be adjustable so competitor may set up work area as desired.
- ☐ Scrap paper and pencil (for competitor to use for calculations, if needed)

Skill !V Non-Sterile Compounding: Preparing an Oral Suspension (References: *McCartney*)

- ☐ Smarties candy "tablets" or easily crushable demo dose drugs in Rx vials WITH LABELS that include drug name, tablet strength, lot number, expiration date)
- ☐ Completed recipe or formula using Master Formula Sheet (page 21 of guidelines) per scenario
- ☐ Prescription order for oral suspension
- ☐ Small Mortar and pestle
- ☐ Small bottle of suspending vehicle WITH LABELS that include agent, lot and expiration date (such as VersaFree by Humco)
- ☐ Liquid medication bottle as indicated by scenario information
- ☐ Label to be used
- ☐ Labels to serve as distraction
- ☐ Auxiliary Labels (Shake well, Refrigerate, Take with Food, Use By, etc.)
- ☐ Counting trays
- ☐ Spatula for counting tablets on tray
- ☐ Assorted graduated cylinders
- ☐ Bottle brushes (for cleaning graduated cylinders)
- ☐ Sink, paper towels, and soap for equipment cleanup and handwashing
- ☐ Alcohol based hand sanitizer
- ☐ Transport vehicle (stainless steel cart, basket or tray to facilitate transfer)
- ☐ Scrap paper and pencil (for competitor to use for calculations, if needed)

Skill V Identifying Pharmacy Instruments/Equipment (Reference*: Moini)*
  15 instruments/equipment or photos from the following list:

- ☐ Compounding slabs or disposable sheets
- ☐ Mortar
- ☐ Pestle
- ☐ Heat gun
- ☐ Hot plate
- ☐ Crimper
- ☐ Tablet mold
- ☐ Suppository mold
  - o Aluminum type
  - o Plastic type
- ☐ Cylindrical graduates
- ☐ Conical graduates
- ☐ Pipettes
- ☐ Beakers
- ☐ Beaker tongs
- ☐ Intravenous system
  - o IV solution bag
    - o Injection port
    - o Drip Chamber
    - o Roller Clamp
    - o Piggyback device
- ☐ Ampules
- ☐ Autoclave
- ☐ Laminar Airflow Hood
- ☐ Syringes
  - o Safety syringe
  - o Insulin syringes
  - o Tuberculin syringe
  - o Prefilled, single-dose syringe
  - o Intravenous Injection
- ☐ Transdermal patch
- ☐ Liquid oral syringe
- ☐ Medicine cup
- ☐ Medicine dropper
- ☐ Calibrated spoon
- ☐ Counting tray

- ☐ Medication containers
- ☐ Weights
- ☐ Spatula
- ☐ Tissue forceps
- ☐ Hemostatic forceps
- ☐ Eyewash station
- ☐ Sharps container
- ☐ Auxiliary labels
- ☐ Indicator strip (used for sterilization)

Skill VI Filling A Prescription (Reference*: Johnston, Moini)*
- ☐ Prescription (via the scenario)
- ☐ Patient/actor
- ☐ Hand Sanitizer
- ☐ Correct computer-prepared prescription label and labels to act as distractors
- ☐ Auxiliary labels (such as take with food, for external use only, shake well)
- ☐ Counting tray & spatula
- ☐ Alcohol pad for cleaning counting tray & spatula
- ☐ Correct size medication container
- ☐ Medication Containers of incorrect size to act as distractors
- ☐ Correct medication tablets (Smarties or other candy may be used or demo drugs are available for order)
- ☐ Incorrect medication tablets to act as distractors
- ☐ Scrap paper and pencil (for competitor to use for calculations, if needed)

Skill VII: Aseptic Garbing, Hand Washing and Gloving (Reference: *McCartney*)
- ☐ Sterile, foamed 70% Isopropyl Alcohol
- ☐ Pre-saturated surgical scrub sponge/brush
- ☐ Aseptic, lint-free, disposable towels
- ☐ Sterile sponge / brush
- ☐ Aseptic, lint-free, disposable towels
- ☐ Sink access (with or without foot pedals)
- ☐ Wastebasket
- ☐ Anteroom and Clean Room (could be simulated by signage or dividing areas within room)

Event Flow Chart

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          ┌─────────────────────────────┐
          │         Orientation          │
          │   50-item test in 60 minutes │
          └──────────────┬──────────────┘
                         │
              ┌──────────┴──────────┐
              │      Scan Tests      │
              └──────────┬──────────┘
                         │
          ┌──────────────┴──────────────┐
          │  Top competitors advance to  │
          │          Round Two           │
          └──────────────┬──────────────┘
                         │
          ┌──────────────┴──────────────┐
          │  Competitors perform skills  │
          └──────────────┬──────────────┘
                         │
          ┌──────────────┴──────────────┐
          │  Did competitor earn 70% of  │
          │        skill points?         │
          └──────┬────────────────┬──────┘
                 │                │
          ┌──────┴──────┐   ┌─────┴─────┐
          │     No      │   │    Yes    │
          └──────┬──────┘   └─────┬─────┘
                 │                │
      ┌──────────┴──────┐   ┌─────┴─────────────┐
      │ Competitor not  │   │ Add competitors'  │
      │ recognized at   │   │ test score to     │
      │ Awards          │   │ his/her skill     │
      │ Session         │   │ score for final   │
      └─────────────────┘   │ tally. Rank top   │
                            │ 10 competitors    │
                            │ according to      │
                            │ their final score.│
                            └───────────────────┘
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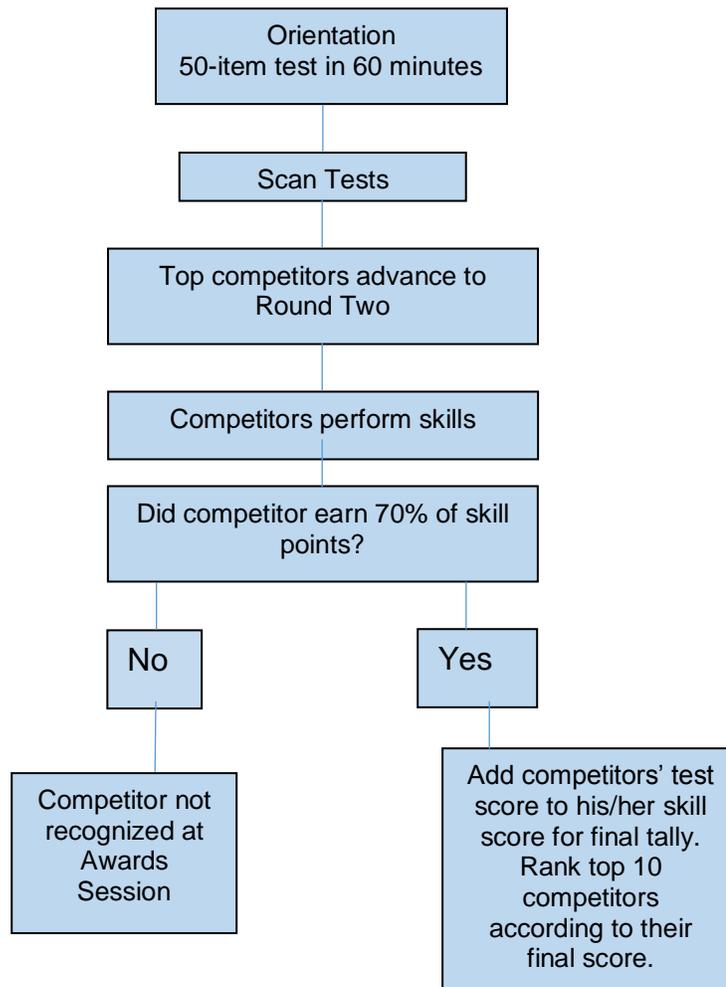
Sample Round One Test Questions

1. The Harrison Narcotics Act of 1917 was passed to:
    A.   enforce New Drug Applications with the FDA.
    B.   stop the recreational use of opium.
    C.   to regulate the dispensing of drugs.
    D.   create classifications of prescription drugs.

2. A patient is to receive 1 ounce of an over the counter medication. How many tablespoons would be given?
    A.   1 tablespoon
    B.   2 tablespoons
    C.   4 tablespoons
    D.   6 tablespoons

3. The newest forms of insulin were produced by:
    A.   animal source.
    B.   mineral source.
    C.   synthetic source.
    D.   genetic engineering source.

PHARMACY SCIENCE

Competitor #: _____   Judge's Signature:_____

Skill I Patient Screening for Pharmacist Consultation and Services (Time: 4 minutes)	Possible		Awarded
1. Greeted patient and introduced self.	1	0	
2. Provided patient privacy by verbalizing or moving to a private area	1	0	
3. Recorded patient's name and date of birth of the blank screening form to verify patient.	2	0	
4. **Asked patient to respond to all questions (5 total) related to screening (as identified in scenario) *- Judge verifies correct questions are asked using screening checklist (student must memorize questions as they will not have access to questions at the event).* - 1 point given per correct question asked: questions do not have to be asked in order	5 4 3 2 1 0		
5. Demonstrated a pleasant and upbeat manner.	1	0	
6. Demonstrated NO distracting elements of nonverbal communication including lack of eye contact, inappropriate facial expressions and body position such as closed posture.	2	0	
7. Avoided the use of medical jargon during discussion with patient.	1	0	
8. Spoke with appropriate volume, pitch, inflection, pronunciation and diction	1	0	
9. Actively listened and did not interrupt while patient was speaking.	1	0	
10. Questioned the patient as needed to ensure that responses were completely understood.	1	0	
11. Signed the Patient Screening form.	1	0	
12. Referred patient to the pharmacist for counseling.	5	0	
13. Handed the completed Patient Screening form to the Pharmacist (judge) indicating the skill is complete	2	0	
TOTAL POINTS -- SKILL I **70% Mastery for Skill I = 16.8**	**24**		

** Step #4: Competitors should ask the patient the questions outlined in the screening checklists on the following pages 9-13 that are applicable to the screening (vaccination x3, late refill, or drug allergy) listed in the scenario received at the time of competition. To prepare, competitors should memorize all 5 questions on each of the 5 screening checklists so they can adequately ask the patients the correct questions.

PHARMACY SCIENCE

Skill I Patient Screening for Pharmacist Consultation and Services

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Screening Checklist
for Contraindications
to **Injectable Influenza Vaccination**

For patients (both children and adults) to be vaccinated: The questions asked are developed to determine if the requested vaccination should be given. If you answer "yes" to any of the following questions it, it does not necessarily mean the vaccination will not be given. Additional information will be required.

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1. Is the person to be vaccinated today showing any signs of illness?

2. Does the person to be vaccinated have allergies to any component of the vaccine?

3. Is the patient over the age of 65 resulting in the need for CDC recommended higher dose?

4. Does the person have a severe allergy to chicken eggs?

5. Is the person to be vaccinated younger than 6 months of age?

Reference: Moini, Jahangir. The Pharmacy Technician: A Comprehensive Approach. Cengage Learning, latest edition.

Screening Checklist will not be provided during the event. Competitors will need to memorize the questions related to the identified issue.

PHARMACY SCIENCE

Skill I Patient Screening for Pharmacist Consultation and Services

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Screening Checklist
for Contraindications
to **Injectable Inactivated Poliovirus Vaccination**

For patients (both children and adults) to be vaccinated: The questions asked are developed to determine if the requested vaccination should be given. If you answer "yes" to any of the following questions it, it does not necessarily mean the vaccination will not be given. Additional information will be required.

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1. Does the person to be vaccinated have allergies to any component of the vaccine?

2. Is the person to be vaccinated today immune depressed in any way?

3. Does the person to be vaccinated live with anyone who has an immune deficiency disease?

4. Is there a suspected familial immune deficiency?

5. Is there possibility that the person being vaccinated is pregnant?

Reference: Moini, Jahangir. The Pharmacy Technician: A Comprehensive Approach. Cengage Learning, latest edition.

Screening Checklist will not be provided during the event. Competitors will need to memorize the questions related to the identified issue.

PHARMACY SCIENCE

Skill I Patient Screening for Pharmacist Consultation and Services

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Screening Checklist for Contraindications to **Injectable Rubella Vaccination**

For patients (both children and adults) to be vaccinated: The questions asked are developed to determine if the requested vaccination should be given. If you answer "yes" to any of the following questions it, it does not necessarily mean the vaccination will not be given. Additional information will be required.

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1. Does the person to be vaccinated have allergies to any component of the vaccine?

2. Is the person to be vaccinated today immunosuppressed?

3. Is the person being vaccinated receiving corticosteroids?

4. Has the person being vaccinated been diagnosed with tuberculosis?

5. Is there possibility that the person being vaccinated is pregnant or attempting to become pregnant?

Reference: Moini, Jahangir. The Pharmacy Technician: A Comprehensive Approach. Cengage Learning, latest edition.

Screening Checklist will not be provided during the event. Competitors will need to memorize the questions related to the identified issue.

PHARMACY SCIENCE

Skill I Patient Screening for Pharmacist Consultation and Services

Screening Checklist
for **Late Refill**

Promoting compliance with prescribed medication is an important role of the pharmacy staff. If the patient is not taking medication as prescribed the following questions may help determine the cause of noncompliance.

1. How did the prescriber recommend you take this medication?

2. What methods do you use to help remember to take your medication?

3. What side effects have your experienced with the medication?

4. Do you believe the medication helps resolve the issues for which it was prescribed?

5. What are your concerns regarding taking this medication?

Reference: Johnston, Mike. The Pharmacy Technician: Foundations and Practices. Pearson, latest edition.

Screening Checklist will not be provided during the event. Competitors will need to memorize the questions related to the identified issue.

PHARMACY SCIENCE

Skill I Patient Screening for Pharmacist Consultation and Services

Screening Checklist
for **Possible Allergic Reaction**

Allergic reactions can be life threatening. Concerns expressed by patient must be investigated. The following questions should be asked to obtain basic needed information.

1. What medication where you taking when you noticed symptoms of concern?

2. Please describe your symptoms.

3. When did your symptoms begin?

4. Were any other medications taken during this time, including over-the-counter drugs?

5. Have you stopped taking the medication?

Reference: American Academy of Allergy, Asthma, and Immunology. Symptoms and Diagnosis tab. https://www.aaaai.org/conditions-and-treatments/allergies/drug-allergy

Screening Checklist will not be provided during the event. Competitors will need to memorize the questions related to the identified issue.

PHARMACY SCIENCE

Skill I Patient Screening Form for Pharmacist Consultation and Services

This form is given to the competitor during the event. The competitor completes this form as they ask the patient the 5 questions they have memorized for the selected screening checklist. As the competitor asks each question, the competitor should write a note of which question they asked (such as allergies, side effects, methods, concerns, immunosuppressed, etc.) in the blank space provided below. As the patient answers each question, the competitor should check "yes", "no", or "don't know" according to how the patient responds. After asking the 5 questions, the competitor will sign the form (in the form completed by line) and then return it to the judge (Pharmacist) as the final step in the skill.

Screening Checklist for: _____

Patient Name: _____ Date of Birth: ____/____/___

	Yes	No	Don't Know
1.	☐	☐	☐
	☐	☐	☐
2.	☐	☐	☐
3	☐	☐	☐
4.	☐	☐	☐
5.	☐	☐	☐

Form completed by: _____   Date:_____

Form reviewed by: _____   Date:_____

PHARMACY SCIENCE

Skill II: **Verifying the Content of a Controlled Substance Prescription and DEA Number (6 minutes)**

*** Via the event scenario, the competitor will be given a prescription. Each competitor will also be given a Prescription Verification Form which acts as the rating sheet (page 15 of the guidelines). The prescription in the scenario will have missing information. Competitors must know all the required components (below) of the prescription in order to identify which components are missing. The Prescription Verification Form will be scored by the judges using the points indicated.

When verifying a Controlled Substance Prescription with DEA Number, the below list of items must all be verified.

1. Patient Information
    a. Name
    b. Address
2. Prescriber Information
    a. Name
    b. Address
    c. Telephone Number
    d. License Number
3. DEA Number
    a. Verified the second letter corresponds to the provider's last name
    b. Added the first, third, and fifth digits of the DEA number.
    c. Added the second, fourth, and sixth digits of the DEA number. Double the sum.
    d. Added the sum of b and c.
    e. Verified that the last digit from step d matches the last digit of the DEA number.
4. When prescribed
    a. Month
    b. Day
    c. Year
5. Drug name and strength
6. Dose and quantity
7. Route of administration
8. Directions (signature or "Sig")
9. Number of refills authorized
10. Product selection was permitted
11. Prescriber's signature
12. No dangerous abbreviations, acronyms, or symbols are used from the Joint Commission's "Minimum" Do Not Use list and Joint Commission's "Recommended" Do Not Use List.

PHARMACY SCIENCE

Competitor #: _____   Judge's Initials:_____

Skill II: Verifying the Content of a Controlled Substance Prescription and DEA Number   (6 minutes)

Prescription Verification Form – Rating Sheet
Name brand and generic names will be used in the scenarios.

Please list which 5 components are missing from the prescription given to you (below):

    1. _____(3 points)

    2. _____(3 points)

    3. _____(3 points)

    4. _____(3 points)

    5. _____(3 points)

DEA Number listed on prescription: _____

Is the DEA number valid?   Yes or No (3 points)

Explain your yes or no answer by showing your work in **five** steps to verify the DEA Number:

    1. _____(1 point)

    2. _____(1 point)

    3. _____(1 point)

    4. _____(1 point)

    5. _____(1 point)

Are there any dangerous abbreviations, acronyms, or symbols used from the Joint Commission's "Minimum" Do Not Use list and the Joint Commission's "Recommended" Do Not Use List? If yes, **list below.** If no, **write NO** (3 points)

_____

What other actions are needed or required? _____(2 points)

Total Points Possible: 28   **Total Points Awarded: _____**

70% Mastery for Skill II: 19.6

PHARMACY SCIENCE

Competitor #: _____   Judge's Signature:_____

Name brand and generic names will be used in the scenarios.

Skill III: Withdrawing Liquid from a Vial (Time: 15 minutes)	Possible		Awarded
1. Obtained the medication order.	1	0	
2. Obtained needed supplies.	2	0	
3. Performed calculation based on scenario.	2	0	
4. Competitors verbalize that all anteroom preparations have been completed.	2	0	
CLEAN ROOM PROCEDURE			
5. Verbalized cleaning the hood.	1	0	
6. Removed the following from the transport vehicle - vial, needle, syringe, and alcohol swabs and placed in the outer 6-inch zone of the hood.	2	0	
7. Moved the vial into the DCA (direct compounding area) portion of the hood.	1	0	
8. Removed the flip-top cap from the vial and placed it in the discard pile (opposite side of the outer 6-inch zone of the hood) and placed the vial in the DCA area.	2	0	
9. Picked up an alcohol swab and placed in the DCA area. Opened & discarded swab package in discard pile.	1	0	
10. Swabbed top of vial and placed swab in discard pile	1	0	
11. Brought the syringe into the DCA area and removed the outer wrapping without touching or shadowing the syringe tip. Disposed of syringe wrapper in discard pile.	1	0	
12. Opened a sterile alcohol swab and placed on the work surface of the hood and discarded of wrapper in discard pile.	1	0	
13. With syringe in the dominant hand, opened needle and held by the cap.	1	0	
14. Removed cap (if present) from syringe and placed in discard pile.	1	0	
15. Held the syringe in the nondominant hand. Used the dominant hand to pull the plunger syringe to draw equal or slightly less than required amount of air into the syringe.	2	0	
16. Used the dominant hand to grasp the syringe at the barrel. Used the nondominant hand to remove the needle cap and placed the cap on the alcohol swab on the hood's work surface.	2	0	
17. Used the fingers to rotate the barrel of the syringe so that the bevel of the needle is pointed toward the ceiling.	2	0	
18. Inserted the needle into the vial using a slight upward rotation of the wrist, keeping the needle in contact with the vial's rubber top throughout.	1	0	
19. Inverted the vial using a clockwise motion and injected air into the vial.	1	0	

Items Evaluated		Possible		Awarded
20.	Removed slightly more than the desired dose and moved bubbles to the top by bracing syringe against palm and tapped the barrel of syringe.	1	0	
21.	Pushed the plunger on the syringe to expel air and any extra fluid back into the vial.	1	0	
22.	Returned the vial (with syringe attached) to the work surface using a counterclockwise motion and gently pulled syringe and needle from the vial.	1	0	
23.	Carefully recapped the needle using the scoop method.	2	0	
24.	Placed the completed product on transport vehicle.	1	0	
25.	Requested pharmacist (judge) to verify the product.	2	0	
26.	Disposed of waste from discard pile and returned equipment to appropriate location.	1	0	
ANTEROOM				
27.	Returned any remaining supplies to their proper location.	1	0	
28.	Removed sterile gown and gloves and remaining PPE and discarded appropriately.	1	0	
TOTAL POINTS – SKILL III		**38**		
70% Mastery for Skill III = 26.6				

**If a student jeopardizes the patient's or his/her own safety and does not take immediate action to correct the error, the total points for the skill or specific subpart(s) of the skill will be deducted.

PHARMACY SCIENCE

Competitor #: _____   Judge's Signature:_____

Name brand and generic names will be used in the scenarios.

Skill IV: COMPOUNDING AN ORAL SUSPENSION (Time: 15 minutes)	Possible		Awarded
1. Obtained the completed recipe or completed formula via scenario using the Master Formula sheet.	1	0	
2. Checked the prescribed dosage with the pharmacist (judge).	2	0	
3. Verified the obtained the correct number tablets needed for compounding based on Master Formula sheet and notified the pharmacist (judge). *Judge verified accuracy. Competitor proceeds either way. Points only awarded if the correct number of tablets were obtained.*	2	0	
4. Obtained needed equipment	1	0	
5. Used alcohol-based hand sanitizer for hand hygiene.	1	0	
6. Donned sterile, powder-free gloves.	1	0	
7. Triturated or reduced to a fine powder by using mortar and pestle.	1	0	
8. Added a small amount of suspending vehicle to levigate or grind the powder until a smooth paste is formed.	1	0	
9. Continued to add suspending vehicle until product is liquid enough to transfer to a graduated cylinder.	2	0	
10. Poured the liquid into a graduated cylinder.	1	0	
11. Rinsed mortar several times with suspending vehicle and added to product in graduated cylinder.	1	0	
12. Verified the amount of the suspension at eye level.	2	0	
13. Poured the compounded suspension into medication bottle.	2	0	
14. Selected the appropriate label from those provided and affixed to the medication bottle. *Judge verified accuracy.*	2	0	
15. Selected the appropriate auxiliary label from those provided and affixed to medication bottle. *Judge verified accuracy.*	2	0	
16. Cleaned the area and equipment using soap and water and returned equipment to proper place.	2	0	
17. Demonstrated proper handwashing.	2	0	
TOTAL POINTS - SKILL V **70% Mastery for Skill V = 18.2**	**26**		

**If a student jeopardizes the patient's or his/her own safety and does not take immediate action to correct the error, the total points for the skill or specific subpart(s) of the skill will be deducted.*

Skill IV - MASTER FORMULA SHEET: NON-STERILE COMPOUNDING

This form will be completed by HOSA staff prior to the event and will be given to competitors with the scenario.

PRODUCT: _____

Date Prepared: _____ FINAL PRODUCT CHECKED BY: _____

EXPIRATION DATE: _____

INGREDIENT	MANUFACTURER	Lot #	MFR EXPIRATION DATE	FORMULA QUANTITY REQUIRED	QUANTITY USED	PREPARED BY	CHK BY

EQUIPMENT

PRESCRIPTION LABEL

AUXILIARY LABELS

COMPOUNDING DIRECTIONS

DATE PREPARED:

EXPIRATION DATE:

STABILITY

REFERENCE(S)

FINAL APPEARANCE

PHARMACY SCIENCE

Competitor #: _____ Judge's Initials:_____ Total Points (45 possible) _____

Skill V: **Identify Equipment and Instruments**   **(Time: 15 minutes)**

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
TOTAL: ID & Spelling (30 poss)																**Name of Instrument**
																Points (1 each for name & spelling)
TOTAL: Purpose (15 possible)																**Purpose or Use**
																Points (1 point for correct purpose/use)

PHARMACY SCIENCE

Competitor #: _____   Judge's Signature:_____

Name brand and generic names will be used in the scenarios.

Skill VI: Filling a Prescription (Time: 5 minutes)	Possible		Awarded
1. Obtained prescription.	1	0	
2. Reviewed the prescription for legality and correctness.	-		
a. Verified the name on the prescription by asking the patient.	1	0	
b. Verified prescription was presented within one year of being written.	1	0	
c. Verified address of the patient.	1	0	
3. Reviewed the original medication order with the judge:			
a. correct dosage form is included on the prescription	1	0	
b. correct strength is included on the prescription	1	0	
4. Determined if generic substitution is allowed based on the prescription	1	0	
5. Used alcohol-based hand sanitizer for hand hygiene.	1	0	
6. Obtained the correct medication to fill the prescription.	1	0	
8. Checked the medication expiration date	1	0	
9. Calculated the number of tablets or capsules to dispense based on prescription.	3	0	
10. Used the counting tray and spatula to count needed number of tablets or capsules for the current prescription.	3	0	
11. Recounted to ensure the correct number will be dispensed.	1	0	
12. Obtained the correct container (type and shape) for the prescription.	1	0	
13. Obtained the correct label. rechecking the directions and drug strength.	3	0	
14. Affixed auxiliary labels if indicated such as take with meals, shake well, etc.	1	0	
15. Submitted to pharmacist (judge) for final check.	3	0	

**If a student jeopardizes the patient's or his/her own safety and does not take immediate action to correct the error, the total points for the skill or specific subpart(s) of the skill will be deducted.*

Items Evaluated		Possible	Awarded
16.	Avoided contamination by not touching medication directly throughout filling process.	1 0	
17.	Cleaned counting tray and spatula with an alcohol swab.	1 0	
18.	Returned all equipment to appropriate place.	1 0	
TOTAL POINTS - SKILL VII **70% Mastery for Skill VII = 19.6**		**28**	

PHARMACY SCIENCE

Competitor #: _____   Judge's Signature:_____

Skill VII: Aseptic Garbing, Hand Washing, & Gloving (Time: 10 minutes)	Possible		Awarded
1. Removed any outer garments and jewelry.	1	0	
2. Obtained needed supplies.	1	0	
3. Cleansed your hands with sterile, foamed 70% IPA by holding can so that tip is down into the palm of opposite hand and coating palms, back of hands, and each finger and allow to dry.	3	0	
4. Donned shoe covers one at a time completely covering shoe.	1	0	
5. Reapplied sterile, foamed 70% IPA to hands and allowed to dry.	1	0	
6. Gathered or tied loose hair back and put on the hair cover while completely covering all of the hair.	1	0	
7. Reapplied sterile, foamed 70% IPA to your hands & allow to dry.	1	0	
8. Donned a face mask by positioning the mask securely over nose, mouth and chin. If have facial hair, donned a beard cover.	1	0	
9. TO SINK FOR ASEPTIC HAND WASHING			
a. Squeezed surgical scrub sponge/brush several times to activate soap suds.	1	0	
b. Opened the packet removing the sterile sponge/brush and held in dominant hand.	1	0	
c. Used the other hand to dispose of wrapper in waste container.	1	0	
d. Pressed the foot pedals if present to begin flow of water. *IF NO FOOT PEDALS ARE AVAILABLE ASK JUDGE TO TURN ON THE WATER.*	1	0	
e. When water was warm wet hands and arms.	1	0	
10. Used the nail pick to clean under each fingernail. When completed disposed of pick in wastebasket	1	0	
11. Applied a small amount of water to the scrub sponge/brush.	1	0	

Items Evaluated	Possible		Awarded
12. Used the brush side of the sterile scrub sponge/ brush under the fingernails of left hand moving from thumb to pinkie. Repeated on right side.	2	0	
13. Used the sponge side to clean each of the four surfaces (top, side, bottom) and webbing between beginning with thumb and repeating for each finger on left side. Repeat on right side.	2	0	
14. Used the sponge to clean the palm of the left hand and then repeated on right palm.	2	0	
15. Cleaned the left forearm in a circular pattern around the arm from wrist to elbow and repeated on right side.	2	0	
16. Disposed of scrub sponge/brush without touching waste container or contents.	1	0	
17. Rinsed the left hand and forearm holding your arm with fingers pointed up and rinsing from fingers to elbow. Repeat on right side.	2	0	
Judges turns off water when handwashing is complete.			
18. Used an aseptic, lint-free paper towel to dry both hands moving from fingers toward the elbow.	2	0	
19. Disposed of paper towel in waste container.	1	0	
20. Opened the sterile gown.	1	0	
21. DONNED STERILE GOWN			
a. Inserted one arm into open sleeve and pulled it up on shoulder and repeated on other sleeve.	2	0	
b. Secured the gown at the neck and at the waist.	1	0	
24. Sterilized hands with sterile, foamed 70% IPA.	1	0	
25. Opened sterile gloves and placed on clean surface.	1	0	
26. Placed the left glove on the left hand by grasping the inner part of the cuff with the right hand & pulled up onto left hand. Repeated on right hand.	2	0	
Judge states "skill is completed".			
27. Removal of PPE			
a. Grasped cuff of one glove and pulled glove down & off hand.	1	0	
b. While grasping removed glove in gloved hand, grasped the cuff & pulled off the glove of the other hand.	2	0	
c. Disposed of glove bundle in waste container.	1	0	
d. Untied the gown and removed by pulling at shoulders turning the gown inside out and placed in waster container.	1	0	
e. Removed face mask, hair cover, and shoe covers and discarded in waste container.	1	0	
TOTAL POINTS - SKILL VIII **70% Mastery for Skill VIII = 31.5**	**45**		