

PHARMACY ASSISTANT CURRICULUM

CERTIFICATE

(Revised May 2008)

**MINISTRY OF HEALTH,
DIVISION OF HEALTH SCIENCE EDUCATION**



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Pharmacy Assistant Program (Certificate).

INTRODUCTION

A pharmacy assistant is an individual who works under the supervision of a pharmacist, to assist in the performance of those routine pharmacy department activities not requiring professional judgment of a pharmacist. They can perform as many of the same duties as a pharmacist but all work should be checked by a pharmacist.

The pharmacy assistant training program is designed to provide broad knowledge of pharmacy practice with the aim of assisting in the performance of daily repetitive tasks and provide support to the pharmacist in the practice of pharmacy.

JUSTIFICATION

The need to train pharmacy assistants has become more evident in recent times because of critical issues affecting the health care system in Guyana.

The relevant indicators for training pharmacy assistants for include:-

- (1) Legislation
- (2) Expansion of Regional Health Services
- (3) Acute shortage of pharmacists due migration and resignations.

LEGISLATION

Consequent to passing of the Pharmacy Practitioners Act 2003, the Pharmacy Council of Guyana requires that all persons involved in the practice of pharmacy to be certified for the purposes of registration. This is in accordance with Part V, section 16(1) and (2).

The Ministry of Health as the training institution is expected to conduct the appropriate program to facilitate untrained persons within the private sector and further strengthen capacity of government pharmacy departments.

Objective of the Program

To provide the Pharmacy Assistant with the requisite knowledge and skills he/she requires to function in his/her designated role in the practice of delivering quality pharmaceutical care.

Core Competencies

Upon completion of the Pharmacy Assistant Programme, the student will be able to:-

1. Demonstrate ethical conduct in all duties performed
2. Understand the laws that govern pharmacy practice in Guyana.
3. Interpret prescriptions, prepare and dispense medications under the supervision of a licensed pharmacist.
4. Define medical and pharmaceutical terms and abbreviations.
5. Understand the pharmacology of Medicines in relation to the anatomy affected
6. Perform simple Pharmaceutical calculations.
7. Control inventory of drugs/medical supplies.
8. Define the differences between the hospital and community pharmacy.
9. Communicate with patients and medical professionals in an effective, efficient and courteous manner.

Programme Schedule

Duration 1 year

Term 1 (Christmas).

September – December 15 Weeks

Course # and Name	Credits	Hrs
HSD 011 Human Body and Disease	4 (3-1)	90
HSD 012 National Health Care System	2 (2-0)	30
HSD 013 Medical Terminology	2 (2-0)	30
HSD 014 Foundation Chemistry	3(2-1)	60
PHA 011 Pharmacy Laws and Orientation	3 (3-0)	45
Total	14	255

Term II (Easter)

January to May 17 weeks

HSD 021 Basic and Applied Computer Skills	3 (2-1)	68
PHA 021 Pharmacology	4 (3-1)	100
PHA 022 Pharmaceutics and Dosage Forms	4 (3-1)	100
Total	11	268

Term III (Summer)

May to August 18 weeks

HSD 031 Communication Skills and Ethics	3 (3-0)	54
PHA 032 Good Dispensing Practices	4 (2-2)	90
PHA 033 Pharmacy Stores Management	2 (1-1)	72
PHA 090 Practical Attachment (2 weeks)		
Total	9	216

Total Credits 34

Total Hours 739

Course Description

PHA 011 Pharmacy Orientation and Laws 3 credits

Competencies

1. Acquaint self with the pharmacy practice.

Learning objectives

- a. Explain the origins of modern pharmacy practice.
- b. List some landmark references for pharmacy practitioners
- c. Explain the role of the Pharmacy Assistant

2. Recognize community pharmacy operations.

Learning objectives

- a. Explain the ambulatory pharmacy practice setting.
- b. Describe the typical work environment and roles for technicians in community Pharmacies.
- c. List two main types of community pharmacies and describe the ways prescriptions arrive.
- d. List the legal requirements of a prescription medication order.
- e. Compare the duties of a Pharmacy Assistant with those of a pharmacist in processing and filling prescriptions.
- f. Apply pharmacy calculations to filling a prescription correctly and list the steps required for a prescription medication order to be filled.

3. Recognize community and clinical pharmacy operations.

Learning objectives

- a. Explain the ambulatory pharmacy practice setting.
- b. Describe the typical work environment and roles for a Pharmacy Assistant in community pharmacies.
- c. Describe the typical work environment and roles for a Pharmacy Assistant in a Clinical/Ward setting
- d. List two main types of community pharmacies and describe the ways prescriptions arrive.
- e. List the legal requirements of a prescription medication order.
- f. Compare the duties of a Pharmacy Assistant with those of a pharmacist in processing and filling prescriptions.

- g. Apply pharmacy calculations to filling a prescription correctly and list the steps required for a prescription medication order to be filled.
- h. Identify the members of the pharmacy team; differentiate between roles and responsibilities of team members, and place all members in appropriate positions on the organizational chart.
- i. Identify the members of the pharmacy team; differentiate between roles and responsibilities of team members, and place all members in appropriate positions on the organizations.

4. Understand the existing legislation and regulations that govern Pharmacy practice in Guyana.

Learning Objectives

- a. Know The Pharmacy Practitioners Act 2003
- b. Know The Food & Drug Act 1971
- c. Know The Food and Drugs Act Regulations 1977
- d. Know The Antibiotic Ordinance
- e. Know The Narcotic & Psychotropic Act 1988
- f. Know The Pharmacy and Poisons Ordinance 1956

5. Describe pharmacy laws and ethics

Learning Objectives

- a. Ethical and legal responsibilities of a pharmacy practitioner.
- b. Labeling of all drugs and poisons.
- c. Storage of pharmaceuticals inclusive of poisons.
- d. Know the laws that govern storage and use of narcotics and psychotropic substances
- e. Know the acquisition, storage, administration and dispensing of pharmaceuticals.

PHA 022 Pharmaceutics and Dosage Forms 4 Credits

This course is designed for pharmacy technician students. It provides knowledge and skills relating to competencies required in the pharmacy technician program.

1. Review basic mathematics.

Learning objectives

- a. Change Roman numerals to Arabic numbers and Arabic numbers to Roman numerals.
- b. Compare the size of fractions; add, subtract, divide, and multiply fractions; and reduce Fractions.

- c. Compare the size, add subtract, divide, multiply, and round off decimals.
- d. Change fractions to decimals and decimals to fractions.
- e. Use ratio and proportion to calculate problems for a missing term (X).
- f. Convert fractions to percents and ratios.

2. Convert within and between systems of measurements.

Learning objectives

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- a. Convert metric measures to their equivalents in metric.
- b. Identify symbols and interpret measures in the apothecaries' and household systems.
- c. Convert a unit of measure to its measurements.

3. Acquaint self with methods of administration and calculation.

Learning objectives

- a. State the six "rights" of safe medication administration.
- b. Identify common routes for medication administration.
- c. Identify important critical thinking skills necessary in medication administration.
- d. Identify home care considerations in relation to medication administration.
- e. Interpret a given medication order.
- f. Interpret medication labels.
- g. Calculate doses using ratio-proportion.
- h. Calculate doses using the formula method.

4. Acknowledge pharmaceutical terminology and abbreviations.

Learning objectives

What you will learn as you master the competency:

- a. Identify the basic root words used in everyday pharmacy settings.
- b. Identify the basic prefixes and suffixes used in various pharmacy settings.
- c. Interpret abbreviations and symbols used in prescriptions for dispensing purposes.
- d. Convert milligrams to grains; grams to grains; teaspoon/tablespoon/ounce to milliliters.
- e. Discuss the common drug dose measurements expressed in units/mill equivalents.
- f. Convert a doctor's order containing units/mill equivalents.

5. Medication calculations percentage, ratio and proportions

Learning Objectives

- a. Recognize, interpret, and articulate solution strength as a percent and as a ratio.
- b. Compare quantities using ratios.
- c. Compute correct dosages from doctor orders.
- d. Demonstrate computations with proportions including solving for an unknown term in a proportion and converting measurements units using proportion

6. Be aware of routes and dosage forms

Learning objective

- a. Identify various dosage formulations.
- b. Identify the advantages and disadvantages of the various types of formulations.
- c. Explain the differences between solutions, emulsions, suspensions, lotions, mixtures and elixirs.
- d. Explain the differences between ointments and creams.
- e. Identify the various routes of administration.
- f. List examples of common medications for each route of administration.
- g. Identify the advantages and disadvantages of each route of administration.
- h. Identify the parenteral routes of administration.
- i. Identify the abbreviations for the common routes of administration and dosage Formulations.
- j. Be Knowledgeable of the abbreviation used in the practice of pharmacy.

7. Acquaint self with introduction to compounding.

Learning objectives

- a. Define the term compounding.
- b. Discuss the basic procedures involved in compounding.
- c. List the pharmaceutical preparations that are compounded.
- d. List and describe the equipment, and facilities required for compounding.

8. Be familiar with institutional pharmacy calculations.

Learning objectives

- a. Show calculations commonly used in an institutional setting.
- b. Calculate the quantity of active ingredients needed for each preparation.
- c. Determine the rate of flow for IV meds.
- d. Discuss and calculate dilution technique.

9. Recognize introduction to sterile products.

Learning objectives

- a. List the necessary equipment and facilities used in preparing sterile products.
- b. List the routes of administration associated with sterile products.
- c. Discuss special concerns regarding chemotherapy
- d. Discuss special concerns of reconstitution regarding IV administration.

Types of Instruction

Classroom Presentation and Demonstrations

PHA 021 Pharmacology 4 credits

Objectives

- 1 Students will demonstrate understanding of pharmacology.
- 2 Students will apply the knowledge of pharmacologic basis to nursing practice.

Competencies

1. Examine the basics of pharmacology

Learning objectives

What you will learn as you master the competency:

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b. Compare and contrast pharmacological principles including pharmaceutics, pharmacokinetics, pharmacotherapeutics, pharmacognosy, and

toxicology.

- c. Explain the implications of life span considerations.
- d. Summarize legal, ethical, cultural considerations and pharmacological considerations
- e. Discuss the prevention and response to medication errors.
- f. Emphasize the need for education in relation to drug therapy.
- g. Recognize the impact of over-the-counter drugs and herbal products and over prescribed medicine.
- h. Identify commonly abused substances.
- i. Review the basics of drug administration.

2. Understand drugs affecting the central nervous system.

Learning objectives

What you will learn as you master the competency:

- a. Discuss the use of analgesic agents.
- b. Discuss the use of general and local anesthetics
- c. Discuss the use of CNS depressants and muscle relaxants
- d. Examine antiepileptic agents.
- e. Discuss the use of antiparkinsonian agents
- f. Discuss the use of psychotherapeutic agents
- g. Discuss the use CNS stimulant agents

3. Understand drugs affecting the autonomic nervous system.

Learning objectives

What you will learn as you master the competency:

- a. Be knowledgeable of adrenergic agents
- b. Be knowledgeable of adrenergic-blocking agents
- c. Be knowledgeable of cholinergic agents
- d. Be knowledgeable of cholinergic-blocking agents
- e. Be knowledgeable of indications and contraindications of the above agents

4. Understand drugs affecting the cardiovascular and renal systems.

Learning objectives

What you will learn as you master the competency:

- a. Discuss positive inotropic agents
- b. Discuss antidysrhythmic agents.
- c. Discuss antianginal agents and the nursing process.
- d. Discuss antihypertensive agents a
- e. Discuss diuretic agents
- f. Review the physiology of fluid and electrolyte balance
- g. Discuss coagulation modifying agents
- h. Discuss antilipemic agents
5. Understand drugs affecting the endocrine system.

Learning objectives

What you will learn as you master the competency:

- a. Discuss pituitary agents
- b. Discuss thyroid and antithyroid agents
- c. Discuss antidiabetic agents
- d. Discuss adrenal agents
- e. Discuss women's health agents
- f. Discuss men's health agents

6. Understand drugs affecting the respiratory system.

Learning objectives

What you will learn as you master the competency:

- a. Discuss antihistamines, decongestants, antitussives, and expectorants and the nursing process.
- b. Examine bronchodilators and other respiratory agents a.

7. Understand anti-infective and anti-inflammatory agents.

Learning objectives

What you will learn as you master the competency:

- a. Discuss antibiotics
- b. Discuss antiviral
- c. Discuss antitubercular agents.
- d. Discuss antimalarial, antiprotozoal, and anthelmintic agents
- e. Discuss antiseptic and disinfectant agents
- f. Discuss anti-inflammatory, antirheumatoid,

8. Understand immune and biologic modifiers and chemotherapeutic agents.

Learning objectives

What you will learn as you master the competency:

- a. Discuss immunosuppressant agents.
- b. Discuss immunizing agents
- c. Discuss antineoplastic agents
- d. Discuss immunomodulating agents

9. Understand drugs affecting the gastrointestinal system and nutrition.

Learning objectives

What you will learn as you master the competency:

- a. Discuss acid-controlling agents.
- b. Discuss antidiarrheals and laxatives.
- c. Discuss antiemetic and antinausea agents.

- d. Discuss vitamins and minerals.
- e. Discuss nutritional supplements.

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10. Understand miscellaneous therapeutics: hematologic, dermatologic, ophthalmic, and otic agents.

Learning objectives

What you will learn as you master the competency:

- a. Discuss blood-forming agents.
- b. List anti-arthritic agents.
- c. Describe anti-gout agents.
- d. Describe immunomodulating agents.
- e. Identify antihistamines.

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11. Recognize the drugs affecting endocrine system

Learning objectives

What you will learn as you master the competency:

- a. Describe anterior pituitary hormones.
- b. List posterior pituitary hormones.
- c. Describe and give examples of sex hormones.
- d. Describe and give examples of adrenal hormones.
- e. Describe and give examples of thyroid hormones.
- f. Describe and list pancreatic hormones.

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Types of Instruction

Classroom Presentation & Demonstration

PHA 032 Good Pharmacy Practice 4 Credits

Objectives

This course is designed for pharmacy technician students. It provides knowledge and skills relating to competencies required in the pharmacy technician program.

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Competencies

- 1. **Assist the pharmacist in collecting information for direct patient/customer care.**

Learning objectives

- a. Interview customer/patients for pertinent information and maintain confidentiality.

- b. Demonstrate courtesy and provide full attention to the customer/patient and/or the Physician's office.
- c. Use wording that customer/patients will understand.
- d. Identification of irrational prescription errors and misappropriation of why collect wrong drug during prescribed for diagnosis
- e. Collect accurate information when receiving a prescription.
- e. Highlight special requests on the prescription.
- f. Document and organize information in an electronic or manual format.
- g. Verify proper information for refill of prescriptions.
- h. Identify situations when the pharmacist is needed.
- i. Identify special patient care needs on the prescription

2. Screen Prescription/Medication Orders for Completeness & Authenticity.

Learning objectives

Screen prescription/medication orders within scope of practice as documented in the Guyana

Pharmacy laws and regulations.

- a. Refer all new prescriptions or changes in a prescription to the pharmacist.
- b. Accurately assess and secure information for completeness of the prescription.
- c. Screen for authenticity of the prescription/medication order.
- d. Identify situations that need to be reviewed in relation to a prescription by a pharmacist.

3. Prepare Medications for Distribution.

Learning objectives

- a. Follow safety protocols in the preparation of all medications.
- b. Use infection control standards and aseptic technique in the admixture of sterile products.
- c. Prepare label and compound intravenous preparations.
- d Package the product appropriately using a manual or automated system.
- e. Correctly calculate prescription quantities
- f. Selection of approval package for a medication.
- g. Learning to use the electronic counter
- h. Appropriate labeling of medicines
- h. Prioritize work to increase productivity and efficiency.
- i. Follow protocol to assemble customer/patient materials related to specific disorders.
- j. Prepare the prescription for a final check by the pharmacist.

4. Differentiate Between the Use and Side Effects of Prescription and Nonprescription Medications to Treat Common Diseases.

Learning objectives

- a. Demonstrate the proper method of patient identification.
- b. Demonstrate knowledge of basic physiology of the circulatory and urinary systems.
- c. Describe procedures for testing urine, blood, occult blood, proteinuria and capillary glucose.
- d. Explain laboratory terms and normal test values for selected specimens.
- e. Read physician orders/laboratory requisitions to determine specimen requirements.
- f. Follow written and verbal instructions according to the testing procedure.
- g. Choose the appropriate equipment and supplies for selected specimens.

5. Distribute Medications

Learning objectives

- a. Follow established protocol to record the distribution of prescribed medications.
- b. Deliver the correct medication.
- c. Ensure that a pharmacist is present when a prescription is distributed.
- d. Maintain privacy and confidentiality of all customer/patients.
- e. Report all prescription and medication errors to the pharmacist.

6. Control the Inventory of Medications, Equipment and Devices According to an Established Plan.

Learning objectives

- a. Follow established protocol for receiving medications and devices.
- b. Follow established protocol for placing medication and devices in inventory under proper storage conditions.
- c. Follow established protocol for removing medications and devices (e.g., outdated medications, recall, return of expired drugs, etc.) from inventory.
- d. Identify medications and devices that need to be ordered.
- e. Use the ordering process according to protocol.
- f. Maintain records according to protocol.
- g. Maintain emergency drug boxes and carts per protocol.

7. Maintain Pharmacy Documentation, Equipment and Facilities

Learning objectives

- a. File and retrieve paperwork per protocol.
- b. Follow protocols for sanitation management, waste handling, and infection control.
- c. Maintain a clean and neat work environment.

8. Patient Education

- a. Identify patient education topics related to the use of nonprescription, prescription drugs, vitamins, minerals, herbs, and other nutrients.
- b. Identify why a patient/client may be non-compliant with his/her medication regime and discuss potential patient/client education opportunities
- c. Discuss why patients may not communicate to their healthcare provider non-traditional therapies they are participating in and the possible ramifications of their lack of communication.
- d. Provide supplemental drug/nutrient/product education information to patient, patient advocate, and/or the patient's family.
- e. Educate the client/patient regarding potential abuse of certain therapeutic classes of medication specifying type of potential addiction (physical or psychological) most common with that class and discuss elements that contribute to the addictive potential of any therapeutic class of medication.

9. Quality Control

Learning Objectives

- a. Participate in quality control procedures and quality improvement activities (gathering information from patient/customer satisfaction surveys, medication error, and delivery process audits) as directed by the pharmacist.
- b. Refer the patient/customer to the pharmacist for counseling as necessary

Types of Instruction

Work Experience

PHA 033 Pharmacy Stores Management 2 Credits

1. Control the Inventory of Medications, Equipment and Devices According to an Established Plan.

Learning objectives

- a. Follow established protocol for receiving medications, medicinal and medical applications.
- b. Follow established protocol for placing medication, medicinal and medical appliances.

storage conditions.

- c. Follow established protocol for removing medications and devices (e.g., outdated medications, recall, return of expired drugs, etc.) from inventory.
- d. Identify medications that need to be ordered.
- e. Use the ordering process according to protocol.
- f. Maintain records according to protocol.
- g. Maintain emergency drug boxes and carts per protocol.

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2. Maintain Pharmacy Documentation, Equipment and Facilities

Learning objectives

- a. File and retrieve paperwork per protocol.
- b. Follow protocols for sanitation management, waste handling, and infection control.
- c. Maintain a clean and neat work environment.

3. Demonstrate Activities That Reflect Currency In The Practice of the Technician Role.

Learning objectives

- a. Use resources common in the field to stay current with advances in pharmacy practice.
- b. Assess the benefits of active involvement in local, state, and national technician and other pharmacy organizations.
- . Keep up to date with the most recent references for research purposes

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Types of Instruction

Work Experience