

PHARMACY TECHNICIAN

Program Outline

Major:	PHRM
Length:	2 Years
Delivery:	4 Semesters
Credential:	Ontario College Diploma
Effective:	2012-2013
Location:	Barrie
Start:	Fall (Barrie), Winter (Barrie)

Description

This program prepares graduates to work collaboratively with registered pharmacists in a unique and independent scope of practice within hospital and community pharmacy settings. Students will learn dispensing and compounding skills using knowledge from labs and supervised clinical practice. Students will apply knowledge of anatomy & physiology, pathophysiology, and pharmacology to prepare and dispense a variety of medications including oral, topical, injectable and inhalant medications. Students will utilize current technologies and an understanding of inventory control and customer service to accurately fill prescriptions. Guiding principles of safe medication practice; including aseptic technique, accurate calculations and labelling, and use of current, credible sources of information.

Career Opportunities

The graduate's practice will fall under the Regulated Health Professions Act; graduates are required to register with the Ontario College of Pharmacists. Registration with the Ontario College of Pharmacists is a legal requirement to practice and is subject to the regulations and restrictions established by this governing body.

Graduates of the program will be qualified to work in community pharmacies, home health care companies, hospital pharmacies, pharmaceutical wholesalers, pharmacy

software vendors, third party insurance companies and pharmaceutical companies and manufacturers.

Program Learning Outcomes

The graduate has reliably demonstrated the ability to:

- practice safely within a legal, ethical and professional framework in practice settings;
- process prescriptions accurately in compliance with pertinent legislation and established standards, policies and procedures in practice settings;
- prepare pharmaceutical products for dispensing in compliance with pertinent legislation and established standards, policies and procedures in practice settings;
- release pharmaceutical products in compliance with pertinent legislation and established standards, policies and procedures in practice settings;
- collaborate with the pharmacist and other health care providers to optimize the patient's health and well-being within the scope of practice of the pharmacy technician;
- promote quality assurance by performing effective and efficient administrative functions in practice settings;
- optimize medication therapy management and product distribution using current technologies in practice settings;
- develop and implement effective strategies for ongoing personal and professional development that support currency, competence, ethics and values in the pharmacy sector;
- identify the implications of pharmacy technician on the natural environment and to employ environmentally sustainable practices to reduce the impact on the environment.

External Recognition:

The Canadian Council for Accreditation of Pharmacy Programs has granted Georgian College of Applied Arts and Technology a Provisional Accreditation Award. This enables graduates of the program to qualify for the Pharmacy Examining Board of Canada's external examinations as well as register with the College of Pharmacists of Ontario as a Registered Pharmacy Technician in Ontario.

The Program Progression:

Fall Intake - Barrie

Sem 1	Sem 2	Sem 3	Sem 4

Fall 2012	Winter 2013	Fall 2013	Winter 2014

Winter Intake - Barrie

Sem 1	Sem 2	Sem 3	Sem 4

Winter 2013	Summer 2013	Winter 2014	Summer 2014

Admission Requirements:

Applicants must meet ONE of the following requirements to be eligible for admission to this program:

- OSS Curriculum: OSSD or equivalent with Grade 12 English (C) or (U) (ENG4C, ENG4U); plus Grade 12 College Chemistry or Grade 11 or 12 University Chemistry (SCH4C, SCH4U, SCH 3U); plus Grade 11 College or Grade 11 or 12 University Biology (SB13C, SB13U or SB14U); plus any Grade 12 College Mathematics (MAP4C or MCT4C), or any Grade 12 University Mathematics
- Academic and Career Entrance Certificate (ACE) program with: Communications; Business, Apprentice or Technical Mathematics; Biology, Chemistry
- Ontario High School Equivalency Certificate (GED)
- Mature applicant with standing in the required courses and/or mature student testing that meets the minimum standards for admission

Applicants who are 19 years of age or over by the first day of classes, and who lack the academic entrance qualifications, may be considered for entrance to an appropriate post-secondary diploma or certificate program as mature applicants. Each applicant will be considered on an individual basis and acceptance will be determined by counselling, Communication Placement Assessment (CPA), previous post-secondary education and evaluation of experience. Some programs also have specific prerequisite requirements that must be met prior to admission. Mature applicants must meet all program specific prerequisites. Those applying as mature students and having no documentation of Grade 12 education must supply, if required, proof of age, such as a copy of an official birth certificate or driver's licence. Refer to Section 2.5 and 2.6 of the Academic Calendar for further details.

Selection Process:

Selection is based on admission requirements and academic grades.

Additional Information:

Certain clinical placements may require students to have updated flu shots, TB testing and Hepatitis B vaccination as well as a Police Record Check (including Vulnerable Sector

Screening and a check of the Pardoned Sex Offender Data Base). It is the student's responsibility to ensure he or she is eligible to participate in clinical placements. The College assumes no responsibility for these matters and students should be aware that tuition will not be refunded in the event that access to a placement is denied.

In addition to these requirements, applicants must also provide proof of a current First Aid and C.P.R. 'HCP' certification, prior to the commencement of preclinical courses.

Registration with the Ontario College of Pharmacists (OCP) is mandatory to practice as a Pharmacy Technician in Ontario.

Note: A history of criminal offences or charges of professional misconduct in another jurisdiction or another profession may interfere with your ability to become registered in Ontario. Should either situation apply, you are recommended to seek clarification with the OCP before applying to the Pharmacy Technician program at Georgian College.

Applicants are advised that the clinical requirements of the program and future employment require good vision (with or without corrective lenses) and manual dexterity with repetitive motion.

Graduation Requirements:

- 23 Mandatory Courses
- 2 Communications Courses
- 3 General Education Courses

Graduation Eligibility:

To graduate from this program, the passing weighted average for promotion through each semester, from year to year and to graduate is 60%. Additionally, a student must attain a minimum of 50% or a letter grade of P (Pass) or S (Satisfactory) in each course in each semester.

Mandatory Courses

- BIOL1011 Anatomy and Physiology
- BIOL1012 Pathophysio and Drug Therapy 1
- BIOL2005 Pathophysiology and Drug Therapy 2
- BIOL2006 Pathophysiology and Drug Therapy 3
- COMP1063 Retail Pharmacy Computer Systems
- COMP2096 Hospital Pharmacy Computer Systems
- MATH1024 Pharmaceutical Calculations
- PHRM1000 Pharmacology Fundamentals
- PHRM1001 Retail Dispensing Introductory Lab
- PHRM1002 Retail Dispensing Introductory Theory
- PHRM1003 Non-Sterile Compounding Practices Lab

PHRM1004	Retail Dispensing Advanced Theory
PHRM1005	Retail Inventory Control
PHRM1006	Practicum 1
PHRM2000	Hospital Dispensing Introductory Theory
PHRM2001	Sterile Techniques
PHRM2002	Hospital Inventory Control
PHRM2003	Hospital Practice and Infection Control
PHRM2004	Legal Foundations and Professional Practice
PHRM2005	Hospital Dispensing Advanced Theory
PHRM2006	Herbal Products and Complementary Care
PHRM2007	Integrated Practice and Career Development
PHRM2008	Practicum 2

Communications Courses

To be selected at time of registration from the College list, as determined by testing.

General Education Courses

To be selected from College list

Course Descriptions:

BIOL1011 Anatomy and Physiology 42.0 Hours

This course will cover the body systems, focusing on homeostasis and the integrated nature of how these systems function. Cellular biology and microbiology will be covered in relation to pharmacological agents.

BIOL1012 Pathophysio and Drug Therapy 1 56.0 Hours

This course will cover disease processes that involve the integumentary , gastro-intestinal, and respiratory systems. Common disorders of the eye and ear will be covered. Drug therapy commonly prescribed for each of these conditions will be noted.

P- PHRM1000 Pharmacology Fundamentals

BIOL2005 Pathophysiology and Drug Therapy 2 56.0 Hours

This course will cover disease conditions that involve the nervous system, cardiovascular system, blood, urinary system, endocrine and reproductive system. Drug therapy commonly prescribed for each of these conditions will be noted.

P- BIOL1012 Pathophysio and Drug Therapy 1

BIOL2006 Pathophysiology and Drug Therapy 3 56.0 Hours

This course will cover specific conditions such as cancers, infectious/inflammatory diseases as well as immunologic conditions. Intravenous therapy and chemotherapy will be covered. Basic nutritional therapy (vitamins, minerals), parenteral (IV) additives,

total parenteral nutrition and diagnostic agents (radioactive dyes) will be covered. Poisons and antidotes and the role of poison control agencies will be noted. Tropical diseases and related immunizations will be discussed.

P- BIOL2005 Pathophysiology and Drug Therapy 2

COMP1063 Retail Pharmacy Computer Systems 42.0 Hours

The student will learn how to navigate a retail computer system. Students will practice data entry, generation of labels and reports. The student will practice entering third party insurance information. Implications of drug warnings and appropriate responses will be emphasized. The student will demonstrate sound information literacy skills related to pharmacy practice.

COMP2096 Hospital Pharmacy Computer Systems 42.0 Hours

The student will learn the operation of at least one hospital pharmacy computer system. Entry of medication orders, maintenance of patient medication profiles, recognition of and acting on warning messages will be covered. Inventory control and tracking of ward stock for prescription and non-formulary drugs, reconciliation of drug counts, automatic stop orders, procedures for dispensing narcotic/controlled drugs and emergency release drugs will be covered. Documentation associated with emergency drug boxes, crash carts and night cupboards will be practiced. Electronic medical records will be demonstrated.

MATH1024 Pharmaceutical Calculations 28.0 Hours

This course will cover various metric, imperial, and apothecary measurements encountered in pharmacy calculations. The student will perform dosage and conversion calculations using basic mathematical principles. Both accuracy and precision are stressed throughout.

PHRM1000 Pharmacology Fundamentals 42.0 Hours

The student will be introduced to medical terminology and general properties of drugs. Pharmacokinetics and routes for drug administration and factors influencing drug action will be discussed. Pharmacodynamics will be covered to include drug receptor interactions, half life, bioavailability, side effects and adverse reactions. Over the counter and prescription drugs will be identified and basic classifications according to the body systems will be discussed.

PHRM1001 Retail Dispensing Introductory Lab 42.0 Hours

This course will focus on skill development of safe dispensing practice and release of prescription drugs. Students will utilize retail pharmacy computer systems to practice input and retrieval of patient data, prescriber profiles, and maintenance of patient profiles, prescription order entry and generation of prescription labels. Entering third party insurance will be demonstrated and practiced. Students will become familiar with generic and trade/brand names and the therapeutic classification of common pharmaceutical products.

Co-PHRM1002 Retail Dispensing Introductory Theory

PHRM1002 Retail Dispensing Introductory Theory 42.0 Hours

This course introduces basic concepts in dispensing prescriptions: interpreting the prescriptions, translating Latin abbreviations, calculating the prescription quantity from the directions for patient use, in accordance with provincial legislation. Generic and brand name recognition will be stressed. The student will be introduced to community pharmacy practice, including marketing and merchandising concepts.

Co-PHRM1001 Retail Dispensing Introductory Lab

PHRM1003 Non-Sterile Compounding Practices Lab 42.0 Hours

Students will learn to compound non-sterile products by accurately calculating the amount of ingredients and using compounding equipment correctly. Practice may include compounding lotions, creams, ointments and solutions. Preparation techniques, calculations, weights and measurements in all relevant systems of pharmaceutical products will be covered. Labelling and storage will be discussed. Equipment maintenance and environmental cleanliness will be stressed.

P- MATH1024 Pharmaceutical Calculations

PHRM1004 Retail Dispensing Advanced Theory 42.0 Hours

This course will build on skills of receiving, dispensing and releasing prescriptions. Students will gain efficiency, speed and accuracy for selecting and processing pharmaceutical products, using drug inter-changeability information, third party formulary restrictions, and other pharmaceutical references. Students will practice communication skills with patients and health care professionals in consulting appropriately in order to make ethical dispensing decisions. Self care products such as glucometers, testing agents (reagent strips) and home health care equipment will be demonstrated.

P- COMP1063 Retail Pharmacy Computer Systems and P- MATH1024 Pharmaceutical Calculations and P- PHRM1001 Retail Dispensing Introductory Lab and P- PHRM1002 Retail Dispensing Introductory Theory

PHRM1005 Retail Inventory Control 42.0 Hours

The student will learn the theories and importance of inventory management in retail settings. Students will identify the steps in receiving, verifying and reconciling pharmacy orders. Students will learn about stock rotation, restocking and monitoring expiry dates of prescription and over the counter medications. return policies and recalls, and the documentation required with these activities. Students will learn how to participate in pharmaceutical waste disposal management.

P- PHRM1002 Retail Dispensing Introductory Theory

PHRM1006 Practicum 1 140.0 Hours

The student will have a placement in a community/retail pharmacy under the direct supervision of the pharmacist and/or an experienced pharmacy technician or assistant.

The student will apply knowledge learned in class and lab related to professional behaviour, communication, ethical practice and hands on skills. The student will practice ordering, receiving, inventory control, record-keeping and prescription processing. Patient safety related to preparing and dispensing medications will be a core performance criteria.

C- BIOL1012 Pathophysio and Drug Therapy 1 and C- PHRM1003 Non-Sterile Compounding Practices Lab and C- PHRM1004 Retail Dispensing Advanced Theory

PHRM2000 Hospital Dispensing Introductory Theory 42.0 Hours

The student will learn the role of the institutional pharmacy and its relationship to other departments. Hospital pharmacy accreditation through the Canadian Council on Health Services Accreditation (CCHSA) and quality assurance programs will be described. Procedures to maximize patient safety and minimize liability will be covered. Purchasing, pricing, special storage, inpatient and outpatient dispensing, bulk versus unit dose systems will be noted. Security of patient records and maintenance of patient confidentiality will be a point of focus.

C- PHRM2001 Sterile Techniques and C- COMP2096 Hospital Pharmacy Computer Systems

PHRM2001 Sterile Techniques 42.0 Hours

The student will learn proper aseptic technique in the preparation of sterile products. Students will apply previously learned concepts of accurate measurement, dosage calculations and quality assurance to prepare safe products. Sterile preparations may include infusion pump cassettes, intravenous admixtures, chemotherapy agents, total parenteral nutrition, eye preparations and irrigation solutions. Regulations, standards and guidelines governing preparation of sterile products will be covered.

P- PHRM1003 Non-Sterile Compounding Practices Lab

PHRM2002 Hospital Inventory Control 42.0 Hours

The student will learn the importance of inventory management in the hospital or institutional environment. Students will practice receiving, verifying and reconciling pharmacy orders to include purchase orders, packing slips and invoices. Students will practice stock rotation, restocking and monitoring expiry dates of medications, IV solutions and other health products. Reduction of waste and loss as responsible cost containment strategies will be covered. Security for the hospital pharmacy will be discussed.

C- PHRM2000 Hospital Dispensing Introductory Theory

PHRM2003 Hospital Practice and Infection Control 42.0 Hours

The student will learn the factors that contribute to the spread of infection and measures taken on the institutional level to control the spread of infection within the hospital or long term care facility. Nosocomial and opportunistic infections will be discussed with at-risk populations. Inter-professional communication will be stressed.

P- PHRM2001 Sterile Techniques

PHRM2004 Legal Foundations and Professional Practice 42.0 Hours

This course presents an introduction to pharmacy practice, historic development and the current role of the pharmacist and pharmacy technician in institutional and community pharmacy practice. Current Canadian legislation, regulatory bodies that govern safe and ethical practice and jurisprudence will be a point of focus. Students will understand their role within the profession and their responsibilities for meeting legal and ethical requirements. Concepts related to professional liability will be a point of focus.

PHRM2005 Hospital Dispensing Advanced Theory 42.0 Hours

The student will continue building on skills related to hospital dispensing procedures. Narcotic control, patient controlled analgesic, investigational drug dispensing, and night cupboard maintenance will also be covered. Security procedures to prevent loss will be covered. Waste reduction and hazardous waste disposal will be discussed.

PHRM2006 Herbal Products and Complementary Care 42.0 Hours

This course will cover a variety of herbal products available over the counter, their significance in pharmacy practice and their possible interactions with prescribed medications. Students will survey the scope of practice for a variety of complementary care practitioners.

PHRM2007 Integrated Practice and Career Development 42.0 Hours

Using an integrated approach, students will work through case studies to examine medication errors and system failures that resulted in patient or employee harm. The guidelines from the Institute for Safe Medication Practice Canada (ISMP Canada) will be discussed. Remedies and policy/procedure changes recommended will be covered. The Ontario College of Pharmacists (OCP) Learning Portfolio will be introduced and students will do a self analysis to define strengths, weaknesses and a learning plan as part of this portfolio development. New trends and changes in legislation will be discussed.

P- PHRM2004 Legal Foundations and Professional Practice

PHRM2008 Practicum 2 140.0 Hours

The student will have a placement in a hospital or long term care facility pharmacy under the direct supervision of the pharmacist and an experienced pharmacy technician. The student will apply knowledge learned in class and lab related to professional behaviour, ethical practice and hands on skills. The student will practice the receiving, inventory control, prescription processing and compounding required of the hospital pharmacy. The student will demonstrate appropriate and professional behaviour, good problem-solving, and acceptance of corrective feedback in order to improve performance and safe practice.

P- COMP2096 Hospital Pharmacy Computer Systems and P- PHRM1006 Practicum 1 and P- PHRM2000 Hospital Dispensing Introductory Theory and P- PHRM2004 Legal

Foundations and Professional Practice and C- PHRM2003 Hospital Practice and Infection Control and C- PHRM2007 Integrated Practice and Career Development

Course Description Legend

P = Prerequisite; C = Concurrent prerequisite; CO= Corequisite

Information contained in College documents respecting programs is correct at the time of publication. Academic content of programs and courses is revised on an ongoing basis to ensure relevance to changing educational objectives and employment market needs. The college reserves the right to add or delete programs, options, courses, timetables or campus locations subject to sufficient enrolment, and the availability of courses.