

I. COURSE DESCRIPTION:

This course is an introduction to the study of pharmacology. Students will begin study of current and newly approved medications based on the various pharmacological classifications and therapeutic uses. Learners will become knowledgeable about the actions of medications on the human body. Included will be developing skills in the use of references and resources specifically utilized in the pharmacy profession.

This course is designed to enable students to attain competencies specified in the National Association of Pharmacy Regulatory Authorities (NAPRA) Professional Competencies for Canadian Pharmacy Technicians at Entry to Practice (March 2014). (Full document available at www.napra.ca)

This course is designed to enable students to attain the educational outcomes specified in the Canadian Pharmacy Technician Educators Association (CPTEA) Educational Outcomes for Pharmacy Technician Programs in Canada (March 2007). (Full document available at www.cptea.ca)

This course is designed to enable students to meet and maintain the standards of practice expected within the pharmacy technician's role. The standards are specified in the National Association of Pharmacy Regulatory Authorities (NAPRA) Model Standards of Practice for Canadian Pharmacy Technicians (November 2011). (Full document available at www.napra.ca)

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

define and discuss the following for various pharmaceutical products: pharmacological classification, therapeutic use in a given disease state, and potential problems.

Potential Elements of the Performance:

- Identify and understand drug class, dosage forms, adverse effects, contraindications, drug interactions, dosing in special populations and allergies
- Apply human physiology and pathophysiology to understand how a drug can be used therapeutically as treatment for a given disease state
- Correctly recognise trade and generic names and associate them with mechanism of action, dosage form, common reasons for use, adverse effects, drug-drug, drug-food and drug-herbal remedy interactions.
- Prepare drug lists from each unit, including correct recognition of trade and generic names, dosage forms, mechanism of action, common reasons for use, adverse effects, and drug interactions.
- Identify and assess the implications of drug related problems such as interactions and allergies
- Work within the role and responsibilities of a Pharmacy Technician by knowing when and how to refer to or ask the pharmacist questions
- Discuss non-pharmacological treatments and the role of the Pharmacy Technician in disease prevention and health promotion

III. TOPICS:

1. Fundamentals of Pharmacology
 - What is a drug?
 - Introduction to drug action
 - Drug names and classification
 - Regulation and approval processes
 - Pharmacokinetics, pharmacodynamics and pharmacotherapeutics
 - Dose considerations (Special Populations, Renal and Hepatic Clearance)
 - Drug interactions, adverse drug reactions, medication errors, toxicities, safety/efficacy, non-adherence
 - Addiction, dependence and tolerance
 - Appropriate reference sources (online and textbook resources)
2. Drugs Affecting the Integumentary System
 - Integumentary system disorders (e.g. fungal infections, decubitus ulcers, burns, acne, eczema, psoriasis, sunburn, lice, scabies)
 - Pharmacological treatment of integumentary system disorders
 - Non-pharmacological strategies (e.g. sun protection)
3. Drugs Affecting the Musculoskeletal System
 - Musculoskeletal System disorders (e.g. neuromuscular blockade, muscle spasms, autoimmune diseases that affect the musculoskeletal systems, osteoporosis, Paget's disease, hyperuricemia and gout)
 - Pharmacological treatments (e.g. analgesics, anti-inflammatories, muscle relaxants)
 - Non-pharmacological strategies
4. Drugs Affecting the Nervous System
 - Central Nervous System and Autonomic Nervous System disorders (e.g. anxiety, depression, schizophrenia and other psychoses, Parkinson's disease, Huntington's disease, seizure disorders, pain, migraines, Alzheimer's disease, sleep disorders, Attention Deficit/Hyperactivity Disorder, multiple sclerosis, addiction, dependence and tolerance)
 - Pharmacological treatments (e.g. neuromuscular blockers, anxiolytics, antidepressants, neuroleptics, analgesics, hypnotics, mood stabilisers)
 - Non-pharmacological strategies
5. Drugs Affecting the Special Senses
 - Disorders of the ophthalmic and otic systems (e.g. glaucoma, vertigo, infections)
 - Pharmacological treatments
 - Non-pharmacological strategies

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

1. Moscou K, Snipe K. Pharmacology for Pharmacy Technicians. Mosby. Second Edition. ISBN 9780323084970
2. Sault College Learning Management System (D2L)

V. EVALUATION PROCESS/GRADING SYSTEM:

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|-----------------------|-------------|
| Assignments (3 x 10%) | 30% |
| Tests (2 x 15%) | 30% |
| Final Examination | 40% |
| Total | 100% |

1. The pass mark for the course is 60%. The total grade is composed of marks accumulated for 3 assignments, 2 quizzes, and a final exam.
2. All policies and procedures as outlined in the current Student Success Guide related to submitting assignments, scholarly work/academic honesty, tests and examinations will be followed.
3. **No supplements** will be provided for tests or the final exam.
4. Students missing tests or the final exam because of illness or other serious reason must contact the professor before the test or exam to inform him/her (by phone or email). Those students who have notified the professor of their absence, according to policy, will be eligible to arrange an opportunity to complete the test or exam at another time. Students must contact the professor on their first day back at school following a missed test or exam. Those students who do not follow the above procedures will receive a zero for that test or exam. The professor reserves the right to request documentation to support the absence.

The following semester grades will be assigned to students:

| <u>Grade</u> | <u>Definition</u> | <u>Grade Point Equivalent</u> |
|--------------|--|-------------------------------|
| A+ | 90 – 100% | 4.00 |
| A | 80 – 89% | 3.00 |
| B | 70 - 79% | 2.00 |
| C | 60 - 69% | 1.00 |
| D (Fail) | 50 – 59% | 0.00 |
| F (Fail) | 49% and below | |
| CR (Credit) | Credit for diploma requirements has been awarded. | |
| S | Satisfactory achievement in field /clinical placement or non-graded subject area. | |
| U | Unsatisfactory achievement in field/clinical placement or non-graded subject area. | |
| X | A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course. | |
| NR | Grade not reported to Registrar's office. | |
| W | Student has withdrawn from the course without academic penalty. | |

Note: For such reasons as program certification or program articulation, certain courses require minimums of greater than 50% and/or have mandatory components to achieve a passing grade.

A minimum of a “C” grade is required to be successful in most PTN coded courses.

It is also important to note, that the minimum overall GPA required in order to graduate from a Sault College program remains 2.0.

If a faculty member determines that a student is at risk of not being successful in their academic pursuits and has exhausted all strategies available to faculty, student contact information may be confidentially provided to Student Services in an effort to offer even more assistance with options for success. Any student wishing to restrict the sharing of such information should make their wishes known to the coordinator or faculty member.

VI. SPECIAL NOTES:

Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

VII. COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located in D2L and on the portal form part of this course outline.